

THE VERB STEMS AND CONJUGATIONS  
IN COLLOQUIAL ISRAELI HEBREW -  
a syntactic and semantic study

Thesis, submitted for the Ph.d degree  
of the University of London by  
Shlomo Ariel

Department of Phonetics and Linguistics  
School of Oriental and African Studies

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# ABSTRACT

This thesis consists mainly of an explanatory description of the systematic interrelations between the so-called conjugations (Binyanim) and certain general semantic and syntactic properties of verbs in Colloquial Israeli Hebrew.

The description itself is preceded by a general introductory part, which gives a definition for the term Colloquial Israeli Hebrew (1.1.), spells out the transcription used in the thesis (1.2.1.), notes on some morphophonemic properties of conjugations and stems (1.2.2.) and gives some details on the research methods used (1.4.; 1.5.). In addition, this part includes a critique of traditional and current approaches to the problem of the Binyanim (1.3.) and a concise exposition of the theoretical model which the description follows, a model based on notions and notations borrowed from the T.G. and/Predicate Calculus (1.6.).

The description presupposes a classification of the verbs according to various Basic Predication types (this concept, which is roughly equivalent to basic syntactic patterns, is introduced in 1.6.) into which they fit. This classification is incorporated in the index of roots appended to the thesis. Most (occurrences of) conjugations are said to be "basic", that is roughly "associated with B.P.-types on which no operation has been performed" (2.1.5; 2.10.). Some are said to be "derived", that is "associated with B.P.-types on which operations such as converse-derivation (1.6.9; 2.10.3) reflexive-instantiation (2.10.1.) conjunction and reciprocal instantiation (2.10.2) etc. have been performed". Basic (occurrences of) conjugations are characterized as follows:

Each group of conjugations is associated with a class of roots which defines both middle-intransitive ("non-ergative") and active-transitive ("ergative") B.P.-types (1.6.5.; 2.1.) and in which most roots share certain combinations of meaning-features. (The elements in each such combination are taken from a small stock. Some of them are redundant (2.1.4)). The conjugations occurring in non-ergative B.P.-types realize the marked term of the "Aktionsart" category ingressive vs. non-ingressive (1.3.3; 2.1.3). The Aktionsart contrast neutralizes in the environments of certain classes of roots, defined semantically (2.5 - 2.7.). Departures from the above scheme have usually a simple explanation (2.4; 2.5; 2.6.).



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## 1. GENERAL

### 1.1. Colloquial Israeli Hebrew

The language called here Colloquial Israeli Hebrew (C.I.H.) is the variety of Hebrew used mainly, though not exclusively, by Israeli-born Jews of Western origin as their first informal spoken language. The term Israeli Hebrew (iv'rit isra?'lit) was coined by H.B. Rosén. In His 'Remarques descriptives sur le parler hébreu-israelien moderne' (Rosén 1952:4) he defined the standard form of Israeli Hebrew as 'celle employée par les bacheliers des lycées et les fonctionnaires officiels'. My definition is different from, and, I believe, more accurate than, Rosén's; however, it includes the latter, since grammar-school students and officials in Israel are typically C.I.H. speakers. Rosén's term and definition and similar suggestions by others have been met with some objections. The most serious criticism, it seems, is Ben Haiim's remark (1955:337): "Rosén put the label of generality 'Israeli Hebrew' on a language of a certain limited circle with a common origin and tradition of speech".<sup>+</sup> It will be realized, however, that it is not at all necessary to interpret 'Israeli Hebrew' and similar terms as "labels of generality". They may well be viewed as technical terms with arbitrarily restricted application. As such, they do not necessarily imply that the other varieties of Hebrew current in Israel are in any "real", non-technical sense "less Hebrew" or "less Israeli".

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+ The citation was translated by me from the original Hebrew S.A.

Blanc (1964:133ff) classified the users of spoken Hebrew into the following subcategories: 'non-native speakers (veteran settlers, natives whose first language is not Hebrew, recent immigrants) whose speech retains the mark of former language habits, and native speakers, whose speech bears no direct relation to their forebears' native language'. 'Non native speakers' - writes Blanc - 'might be considered as belonging roughly to one of two categories, with a good deal of overlapping: (a) those whose speech was mainly learned from current usage; (b) those whose Hebrew was mainly acquired (often before the emergence of a generation of native speakers) by heavy reliance on the written sources, so that it represents an attempted imitation of an ideal "Hebrew revived along classical lines", though the latter has never been unequivocally defined'. Native Israeli Hebrew may, according to Blanc, 'be divided into two broad categories. The first might be called "Ashkenazoid" Israeli, both because its speakers are often of "Ashkenazi" (roughly, Central and East European) stock) and because a number of its linguistic features may be traced to the languages spoken by the Ashkenazi Jews in their former habitat; however, since this variety is presumably in use among the majority of native speakers, and since there is a marked tendency for non-Ashkenazis to adopt this form of speech, so that speakers of this variety cannot be differentiated as to ultimate origin, the broader term "General Israeli" has been retained throughout this paper'. Blanc's "General Israeli" is then identical with my "C.I.H." The second native variety to which Blanc refers is "Arabicized Israeli" (A.I.). This form of speech 'is in use among speakers of ultimate Near Eastern origin, often but not necessarily with Arabic in their own or their parents' linguistic background.

'These two major varieties' - adds Blanc - 'are set off from each other by phonic, phonemic, grammatical and lexical differences, but it would probably not fall wide of the mark to state that the similarities far outweigh the differences. It seems likely that other varieties exist, perhaps largely intermediate between the above'.

Rabin (1958a:28) suggests that a sharp distinction should be drawn between all the forms of colloquial Hebrew on the one hand, and formal spoken and written Hebrew on the other hand. The latter is subclassified by him into two major types: Modern Literary Hebrew (M.L.H.) and High Language (H.L.). 'The former' - writes Rabin - 'is used by the Hebrew speaker when he writes casually, in a letter, in the newspaper, in a scientific book. The latter occurs as the writer's direct expression only in artistic writing. This latter type has many subvarieties. What is common to all of them is that they aspire at "stylistic uniformity", that is, at being identical - as far as possible - with one of the previous states of the language. In contrast with this, the "casual writing" style is open, and it comprises linguistic material of many periods, with a good deal of variation'.<sup>+</sup>

The above two classifications will be assumed, and occasionally referred to, throughout this thesis.

Selected bibliography: Baki 1956-7; Bar-Adon 1959; Ben-Haiim 1954; Blanc 1956a, b, c; 1957; 1961; 1964; Chayen 1968; Morag 1959; Ornan 1965; Rabin 1938; 1958a, b; 1964; Rosén 1952, 1956; 1958a, b, c; 1962.

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<sup>+</sup> Translated by me from the original Hebrew S.A.

1.2. Notes on the morphophonemics of stems, conjugations and patterns.

Though the morphophonemics of the C.I.H. verb lies outside the scope of this thesis, this subject cannot be completely avoided. Firstly, some transcription is required. The choice of transcription should not be an arbitrary one, since it affects matters of importance such as the decision whether an entity constitutes one or two roots. However justifying a choice of transcription is a task that cannot be pushed to a thesis' periphery. Therefore, I allowed myself arbitrarily to adopt a transcription that is based on the only detailed studies of C.I.H. phonology that were in existence when this thesis began to take shape, namely Rabin 1938 and Blanc 1961, and 1964. 1965. (Rosén 1956 is a little too idiosyncratic and elaborate for my purposes here. Cf. Blanc's review of the latter: Blanc 1956a). Secondly, some indication of the nature of the morphological entities under discussion is needed, since this is of direct importance to such questions as what constitutes a separate Binyan and what is just a conditioned variant of a Binyan. This takes the form of an informal discussion, of which the sole purpose is to satisfy the immediate needs of this thesis. No claim is made to have contributed anything of great theoretical or descriptive importance.



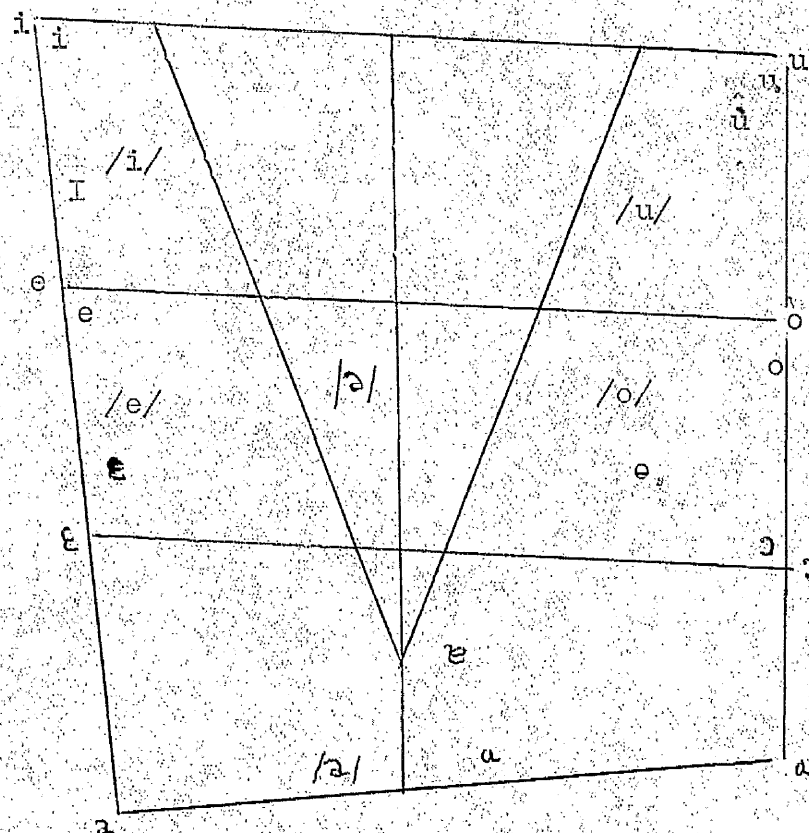











1. TRANSCRIPTION AND NOTES

TABLE 1. THE VOWELS

Table 2. The Consonants

	Bilabial	Labiodental	Dental	Alveolar	Palato-Alveolar	Palatal	Velar + Uvular	Pharyn- gal	Glottal
plosive	/p/  /b/		/t/  /d/				/k/  /g/		/ʔ/ /ʔ̥/
fricative		/f/  /v/		/s/  /z/	/ʃ/  /ʒ/ (=ʒ)	/j/	 /ɣ/		/h/
lateral			/l/ 						
rolled							/r/		
nasal	/m/		/n/				ŋ		
altricate			/c/ 	 /ʃ/ (=dʒ)  /ʒ/ (=tʃ)					

Notes on Tables 1 and 2.

1. In the broad transcription used in this thesis only the symbols between two slanted lines (e.g. /e/) are used. The other symbols indicate positional variants. The vowel-variants are selected according to whether the syllable is open or closed, stressed or unstressed, and according to the nature of the adjacent vowels. For a detailed discussion cf. Rabin 1938:39-68. Most consonants are distinguished in terms of voiceness. Every voiced consonant, except /j/, /m/, /n/ and /r/ is devoiced when immediately preceding a voiceless consonant. Every voiceless consonant is slightly voiced when immediately preceding a voiced consonant. Cf. Rabin 1938:12-38; Blanc 1960:21-23.

2. The dental affricate /c/ should not be confused with the cluster /ts/. E.G. /hut'sa/ 'She was flown' vs. /hu'ca/ 'He was expelled'.

3. \* and x represent two different morphophonemes, and the same applies to ʔ and ʔ̥. \* and x are phonetically identical. However, there are certain rules which affect the former, but not the latter. E.G. in word-final, after /i/, /e/, /o/ or /u/, \*, but not x, must be preceded by a vowel representing /a/. E.G. him'lix ([him'lix]) 'He enthroned somebody' vs. him'li\* ([him'liax]) 'He salted something'. Both ʔ and ʔ̥ are realized as ʔ when they immediately follow a consonant, and as zero elsewhere. ʔ̥ (like \*), but not ʔ, must be preceded by a vowel representing /a/ when it occurs in word-final after /i/, /e/, /o/ /u/. E.g. Kar'ʔa ([kar'ʔa]) 'she read', kar'ʔ̥a ([kar'ʔ̥a]) 'She tore something' vs. ko'reʔ ([ko'rel]) 'He reads', ko'reʔ̥ ([ko'real]) 'He tears something'.

### 1.1.2. Shoresh, Mishkal and Binyan. Notes.

The word-base in Semitic languages consists typically of two elements: A stem, or root (in traditional Hebrew grammar the Hebrew term Shoresh - pronounced '{ore} - is used. This is a loan translation from the Arabic term '?aslun) and one member of a restricted class of morphs called in traditional Hebrew grammar Mishkal (mi } 'kal; plur. mi } ka'lim, meaning 'type, pattern', after the Arabic 'wazn; plur. aw'za:n). Each root is a discontinuous morph, consisting typically of three consonants, though bi-consonantal and four-consonantal roots are not uncommon. E.g. k-m 'rise', }-k-r 'drunk', }-m-r 'guard', k-lk-l 'damage' (all C.I.H.). A Mishkal too is usually a discontinuous morph, consisting of vowels only or of vowels and an initial or final consonant. E.g., C.I.H. cac, cuc, cacac, cicoc, cicacon, cicec, mcucac (The c-s refer to the root-consonants). Each root can be construed with a fixed number of specific Mishkalim. E.g.: C.I.H. kam 'He rises', kum 'rise!' }a'mar 'He guarded', m}u'mar 'conserved', }i'kor 'a drunk', }ika'ron 'drunkenness', Kil'kel 'He damaged', mkul'kal 'damaged'. The traditional Hebrew term Binyan (bin'yan; plur. binya'nim, meaning 'species, types'. In traditional European Hebrew grammars Conjugations, Forms, French *Thèmes*, German *Stammformen*) refers to a class of Mishka'lim with certain special characteristics. The set of Binyanim constitutes an integral part of the verbal system. Each Binyan cuts across all the finite and non-finite variant-forms that every verb can assume, such that any Mishkal within the verbal system represents an intersection of a Binyan on the one hand and a non-finite variant or a finite variant representing tense or mood etc. on the other hand. This arrangement is displayed in table 3. (p. 16 ).

Table 3: The distribution of the Binyanim in C.I.H. according to tense, mood and non-finite verbal forms.

Binyan	Pa'ʕal		Niph'ʕal		Pi'ʕel		Hiph'ʕil		Hitpa'ʕel	
	Active	Passive			Active	Passive	Active	Passive		
Tense, mood etc.						(Pu'ʕal)		(Hoph'ʕal)		
Past	ca'cac(-)	---	nic'cac(-)	ci'cec	cu'cac(-)	ic'cic(-)	uc'cac(-)	itca'cec		
Participle (Pres. active imperf. and pres. pass. perfect or imperfect)	co'cec(-)*	ca'cuc	nic'cac	mca'cec(-)	mcu'cac	mac'cic	muc'cac	mitca'cec(-)		
Future	-ic'coc(-)	---	-ica'cec(-)	-ca'cec(-)	-cu'cac(-)	-ac'cic(-)	-uc'cac(-)	-itca'cec(-)		
Imperative	ccoc(-)	---	ica'cec(-)	ca'cec(-)	---	ac'cic(-)	---	itca'cec(-)		
Verbal noun	cci'ca	---	icac'cut	ci'cuc	---	acca'ca	---	itcac'cut		
Infinitive	lic'coc	---	lica'cec	lca'cec	---	lac'cic	---	litca'cec		

\* The sign '-' preceding or following a base marks the obligatory occurrence of a subjective person-gender-number inflectional affix. The same sign in brackets: '(-)' marks the fact that an affix occurs as the realization, or part of the realization of some particular person-gender-numbers, but no affix occurs (or the affix 'o' occurs) as the realization of certain other person-gender-numbers. E.G. in the past tense active, Binyan Pa'ʕal a suffix '-ti' occurs for 1st, sg. common, but no suffix occurs for 3rd, sg. masc. . If a base has both '-' preceding it and a following it, this means that the inflectional-affix is non-continuous, and consists of both a prefix and a suffix, e.g., the affix 't-na' (future, 3rd fem. plur.).

## Notes

1. The names of the Binyanim are traditional. They consist of a representative Biblical Hebrew root (p-ʕ-l 'do, act'), construed with the perfect active Mishkal in each Binyan. The cluster -ph- in the words Niph'ʕal, Hiph'ʕil, Hoph'ʕal and -th- in Hithpa'ʕel represent, respectively, the fricative variants of /p/ and /t/.

2. With some roots in Binyan Pa'ʕal the future tense Mishkal is -ic'cac(-) rather than -ic'coc(-). E.g. with the roots r-k/x-v 'ride', ʕ-k/x-v. 'lie'. Mishkal -ic'cac(-) is chosen by all final or middle ʔ or ʕ roots: ʕ-l-ʕ 'send', ʕ-m-ʔ/q 'hear', b/v-ʕ-r 'choose' etc.<sup>+</sup> According to note 3. in 1.2.1 ʕ and ʔ must be preceded by a vowel representing /a/ in word final after /i/ /e/, /o/ or /u/, but not after /a/. Now, since final ʕ or ʔ roots in the future tense of Binyan Pa'ʕal are realized according to the pattern exemplified by [i ʕ] 'lax] 'He will send' and [i ʕ] 'mal] 'He will hear', not according to the pattern exemplified by [\*i ʕ] 'loax] and [\*i ʕ] 'moal], the future tense Mishkal of Binyan Pa'ʕal occurring with such roots is of necessity -ic'cac(-) rather than -ic'coc(-).

In tradition-oriented school grammars of Modern Hebrew the Mishkal corresponding to C.I.H. -ic'cac(-) is usually

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+ However, many speakers tend to use middle ʕ or ʔ roots with -ic'coc(-) or, rather, to replace middle ʕ and ʔ by x and ʔ, respectively. Middle ʕ and ʔ are sometimes treated like x and ʔ in other positions as well, e.g. [bax'ru] 'they chose' instead of the expected [baxa'ru].

described as a Mishkal associated mainly with intransitive verbs (cf. for instance Goshen 1962:31). The language described (or rather prescribed) in these grammars is not C.I.H., but it is interesting to note, that in C.I.H. too, ignoring final \* or ? roots, most Mishkal -ic'cac(-) verbs are intransitive. However, some Mishkal -ic'coc(-) verbs are intransitive as well, e.g. ir'kod 'He will dance', id'lof 'It will leak' etc., and many final \* or ? roots in Mishkal -ic'cac(-) are transitive. The distinction between -ic'cac(-) and ic'coc(-) in C.I.H. is not correlated, then, with any systematic syntactic or semantic difference. One C.I.H. root: j/ḳ-x-l 'be able to' takes Mishkal ca'coc(-) instead of ca'cac(-) in the past tense of Binyan Pa'al and instead of co'cec(-) in the active present participle of Binyan Pa'al. Many speakers, however, use with this root the standard past tense Mishkal ca'cac(-).

Some roots in Binyan Pa'al take ca'cec(-) instead of co'cec(-) in the present active participle. Many speakers, however, use the standard Mishkal co'cec(-). E.g. hu ja'ḥan 'He was sleeping'; hu ja'ḥen or hu jo'ḥen 'He is sleeping'. The tendency is to use Mishkal ca'cec only as an adjective (that is, as a form that can be directly inflected according to gender and number but not according to person and tense. The latter can be provided through the auxiliary verb h-j-j/ḳ 'to be'). E.g. hu ja'ḥen 'He is asleep'; hen (or hem) jḥe'not 'They (fem.) are asleep'; hu ha'ja ja'ḥen 'He was asleep'; hen (or hem) ha'ju jḥe'not 'They (fem.) were asleep'.

3. The number of Mishkalim can be reduced if the following considerations are taken into account.

The infinitive of each Binyan can be described as



derived from the future tense Mishkal of the same Binyan by the prefix 'l-.'

The imperative Mishkal of each Binyan is identical to the future tense Mishkal of the same Binyan, except in the case of Binyan Pa'al.

The present participle active Mishkalim of Binyanim Pi'el Hiph'il and Hithpa'el are derived from the respective future tense Mishkalim of these Binyanim by the prefix 'm-'. This does not apply to Pa'al and Niph'al.

Binyan Hithpa'el seems to be derived from Binyan Pi'el by the affix '(-)it -' (this seems particularly convincing if 'm-' and 'l-' are regarded as prefixes rather than as integral parts of their respective Mishkalim). This, however, would leave unexplained the distinction between 'i' in ci'cec (the past tense Mishkal of Pi'el) and 'a' in -ca'cec (the past tense Mishkal of Hithpa'el), and the distinction between the verbal noun Mishkalim of Pi'el and Hithpa'el.

4. Roots of which the central element includes more than a single consonant will as a rule occur in one or more of the Binyanim Pi'el, Pu'al and Hithpa'el and in no other Binyan. E.g. the form consisting of the root k-lk-l 'spoil, damage' in Pi'el, past tense, 3rd, sg. m. is kil'kel 'He spoiled, damaged'. The form consisting of the root t-lgr-f 'send a telegram' in the same Binyan, tense and gender-person- number is til'gref.

C.I.H. has a class of quadri-consonantal roots with '}' as their initial consonant. These pattern in exactly the same way as ordinary quadri-consonantal roots in Pi'el, Pu'al or Hithpa'el. E.g. {il'hev 'He inflamed someone'; {ul'hav 'He was inflamed'; i}tal'hev 'He became inflamed'. In some



cases roots of this kind have corresponding tri-consonantal roots with no initial '}'. The latter, as a rule, take Hiph'<sup>s</sup>il. E.g., along with }il'hev one finds hil'hiv 'He aroused enthusiasm (root l-h-v, Binyan Hiph'<sup>s</sup>il, past tense, 3rd, sg. m.).

Rosén (1956:222, 224) adds to his list of Binyanim the Binyanim Shiph'<sup>s</sup>el, Shufh'<sup>s</sup>al and Hishtafh'<sup>s</sup>el. According to his description the distinction between }il'hev and hil'hiv is one of Binyanim, not one of roots. The root in both would presumably be l-h-v. Considering the fact that verbs such as }il'hev behave in exactly the same manner as quadri-consonantal roots in Binyanim Pi'<sup>s</sup>el, Pu'<sup>s</sup>al and Hithpa'<sup>s</sup>el, and also the fact that they seem to share all semantic and syntactic properties of these Binyanim, one would tend to describe verbs such as }il'hev not as special Binyanim with ordinary tri-consonantal roots, but as quadri-consonantal roots in Pi'<sup>s</sup>el, Pu'<sup>s</sup>al and Hithpa'<sup>s</sup>el. The only difference between roots of the type }-lh-v and other quadri-consonantal roots lies in the fact that some of the former are derived from tri-consonantal roots by means of the prefix ' } - '. The prefixation is semi-productive in C.I.H. The roots that can take ' } - ' occur in Hiph'<sup>s</sup>il, but they may occur in other Binyanim as well. Semantically, the prefix ' } - ' often contributes to the root the feature "intensive" or "iterative". E.g. l-h-v vs. }-lh-v (cf. above). k/x-t-v 'write' vs. }-xt-v 're-write' (here ' } - ' is a translation of the English prefix 're-'). k/x-f/p-l 'double' vs. }-xp-l 'duplicate'. It will be observed however, that many "genuine" quadri-consonantal verbs (i.e. roots of which no element is an affix) have ' } - ' as their initial consonant. E.g. }-xr-r 'set free', }-f}-f 'rub'. These have no corresponding roots without the prefix ' } - ',

therefore cannot be considered derived. Usually such roots are recognized from the derived ones by the fact that their third and fourth consonant are identical, or are a repetition of the first and second consonant, respectively. However some roots have these characteristics and still have corresponding roots without ' } - '. E.g. k/x-l-l 'generalize' and { -xl-l 'improve, make perfect'. It is felt that there is some semantic connection between these two latter roots, but this is not systematic, as in the case of the feature "intensive" or "iterative", mentioned above.

Another prefix of ' } - 's kind is ' t- '. The latter has the same formal characteristics as ' } - '. Examples: tir'gel (root t-rg-l, Binyan Pi'el, past tense, 3rd, sg., masc.) 'trained, engaged somebody in exercises' vs. hir'gil (root r-g-l, Binyan Hiph'il, past tense, 3rd, sg. masc.)'

This derivation is semi-productive too. Other examples: t-f<sup>2</sup>/q-l (operate (a machine, etc.))' (with Pi'el and Pu'al. Most roots derived with 't-' occur with Pi'el and Pu'al only) vs. f/p-<sup>2</sup>/q-l (in Hiph'il) 'start, set to work'. t-kc-v 'make a budget' vs. k-c-v 'allocate'. Roots such as t-kc-v are derived from nouns such as tak'civ 'budget' (root k-c-v, Mishkal tac'cic(-)), where the initial 't-' is an integral part of the Mishkal, not of the root. t-kc-v takes on the meaning of the form consisting of the original root (k-c-v) and the nominal Mishkal (tac'cic(-)).

Besides roots derived with 't-', there are "genuine" quadri-consonantal roots with 't-' as initial consonant, which have no corresponding roots without 't-'. Here too, roots in which 't-' is not a prefix have special characteristics, e.g. the third and fourth consonants are a reduplication of the

first and second consonants, respectively: t-lt-l 'shake', t-ft-f 'drip'. This does not apply to borrowed roots such as t-lf-n 'to telephone'.

Rosén (1956:225) mentions also Binyan Nithpa'el, which patterns in exactly the same way as Hithpa'el, except for the fact that it has 'n-' as initial consonant in all the past tense variants. Nithpa'el occurs only rarely in C.I.H., but is quite common in M.L.H. It tends to be confined to specific roots E.g. z-m-n 'meet by chance', z-k-k 'need' g-l-j/o 'discover', where it occurs as a free variant of Hithpa'el. It seems to have the same semantic and syntactic characteristics as Hithpa'el.

#### 5. "strong" and "Weak" roots.

Some roots are "weak" in the sense that in certain environments at least one consonant drops or is replaced by another consonant. The consonants that are particularly affected in this way are ʔ, ʕ, v, j and n. The way in which such roots will be presented in the present thesis is illustrated as follows: b/v-ʔ/ʕ-r 'burn': [ba'ar] 'It burned', [ivʔar] 'It will burn'. b/v-n-j/ʕ 'build': [ba'na] 'He built', [ba'nuj] 'It is built' [niv'na] 'It was built'. l/ʕ -k-ʕ 'take': [la'kax] 'He took' [i'kax] 'He will take' (compare l-b/v-ʕ : 'wear': [la'vaʕ] 'He wore something'; [il'baʕ] 'He will wear something'). v/j/ʕ-l-d 'give birth': [jal'du] 'They gave birth', [iva'led] 'He will be born', [no'lad] 'He was born'.

Some weak roots reject certain Mishkalim and take certain irregular Mishkalim instead. E.g. ʔ/ʕ -x-l 'eat' takes in Binyan Pa'al the future tense Mishkal -co'cac(-) instead of the expected ic'cac(-). v/j/ʕ-ʕ-v 'sit' takes in Binyan

Pa'al the future tense Mishkal -ce'cec(-) instead of the expected ic'cac(-). It should be emphasized that -co'cac(-) is not required by all initial ʔ/ʕ roots, nor is -ce'cec(-) required by all initial v/j/ʕ roots. For instance, ʔ/ʕ-m-d 'stand' and v/j/ʕ -r-} 'inherit' take the ordinary future tense Mishkal in Binyan Pa'al. The choice of irregular Mishkalim in cases such as above is neither phonologically nor morphologically conditioned. It is just an idiosyncratic characteristic of certain particular roots. A similar phenomenon is found with some "strong" roots as well. For instance, some roots in which the second and third consonants are identical replace all their Mishkalim in Pi'el and Hithpa'el, except the verbal noun of Pi'el, by Mishkalim of which the first vowel is /ə/. Some other roots of this type take the ordinary Mishkalim, e.g. so'vev 'He turned somebody around' vs. ki'lel 'He cursed'. However, certain Mishkalim, which seem irregular are in fact conditioned variants, such that the conditioning in question can be accounted for by a general morphophonemic rule. E.g. in every base in which the initial root-element is v/j/ʕ immediately preceded by /i/ or /a/ as a Mishkal element i, a+v/j/ʕ becomes o; E.g. no'lad 'He was born' (←-- \*niv/j/ʕ'lad; root v/j/ʕ -l-d, Mishkal nic'cac(-)) o'lid 'I shall cause the birth of' (←-- \*av/j/ʕ'lid, root v/j/ʕ -l-d, Mishkal ac'cic(-)).

Bi-consonantal roots occur only in Pa'al Niph'al and Hiph'il, and they take Mishkalim that are different from the ordinary ones. The condition for choosing these special Mishkalim is purely morphological. It cannot be accounted for by any phonological or morphophonemic rule.

### 1.3. Critical remarks on the treatment of the Binyanim by traditional and modern grammarians.

#### 1. The arrangement of the material concerning the Binyanim in standard grammars.

Semitists in general and Hebraists in particular have always been aware of the fact that the Binyanim have certain functions or "meanings", and in every self-respecting Hebrew grammar some space has been devoted to information concerning these functions. This information is usually included in the chapter dealing with the morphology of the verb. The description of the main formal characteristics of each Binyan is followed by a list of the "meanings" it has. The various "shades of meaning" associated with each Binyan are described as extensions of some "basic idea", a sort of common-denominator, to which all the usages of the same formal entity can be reduced. Let us illustrate this by some quotations from Gesenius 1910. In the chapter on Binyan Niph'al (pp. 137-139) one reads: 'As regards its meaning, Niph'al bears some resemblance to the Greek middle-voice, in being (a) primarily reflexive of Qal [i.e. Pa'al S.A.] **נָשָׂא** 'to take heed to oneself'... **נָעַן** 'to answer for oneself' .... Equally characteristic of Niph'al is its frequent use to express emotions which react upon the mind; **נָאָח** 'to sigh (to bemoan oneself)' .... as well as to express actions which the subject allows to happen to himself, or to have an effect upon himself (Niph'al tolerativum), e.g. **נָדַח** 'to search, to inquire', Niph. 'to allow oneself to be inquired of' .... (b) It expresses reciprocal or mutual action...; **נָצַח** 'counsel', Niph., 'to take counsel...' (c) It has also, like Hithpa'el and the Greek middle, the meaning of the

active, with the addition of 'to oneself' (sibi), 'for oneself' etc. (d) In consequence of looseness of thought at an early period of the language, Niph'al comes finally in many cases to represent the passive of Qal, e.g. ... 'to bury', Niph. 'to be buried'.

And in the chapter on Pi'el and Pu'al (139-144):  
 'The fundamental idea of Pi'el, to which all the various shades of meaning in this conjugation may be referred, is to busy oneself eagerly with the action indicated by the stem. This intensifying of the idea of the stem, which is outwardly expressed by the strengthening of the second radical, appears in individual cases as - (a) a strengthening and repetition of the action .... e.g.  $\text{לִצְחַק}$  'to laugh'; Pi'el 'to jest, to make sport (to laugh repeatedly) .... hence when an action has reference to many e.g.  $\text{לִקְבֹּץ}$  'to bury (a person)' ..... Pi'el 'to bury (many)'..... The eager pursuit of an action may also consist in urging and causing others to do the same. Hence Pi'el has also (b) a causative sense (like Hiph'il). E.g.  $\text{לִלְמֹד}$  'to learn', Pi'el 'to teach'. It may often be turned by such phrases as 'to permit to, to declare or hold as' (the declarative Pi'el) ...  $\text{לִפְטֹר}$  'to declare innocent'... '

A presentation of this kind is usually all one can find in traditional grammars in so far as a deliberate and systematic description of the forms and functions of the Binyanim is concerned. By this I do not mean to say that such grammars include no other material that is relevant to the subject. The rest, however, is usually scattered all over the grammar, and the task of putting together all the bits and pieces is left to the reader.

For instance, from the above quotation one learns

that one of the so-called "senses" of Pi'el is "causative". But in order to get from Gesenius' grammar some clear idea of the concrete content of the notion "causative" in Biblical Hebrew, one has to turn to a different part of the grammar, namely the syntax, where causative sentence patterns are discussed. The required information will be found in the chapter labelled the Government of the Verb. The kind of statements one finds in this chapter may be illustrated from p. 370:

'Two accusatives (usually one of the person and one of the thing) are governed by - (a) the causative conjugations (Pi'el, Hiph'il...) of verbs which are simply transitive in Qal; ..... מִלֵּא 'to fill, to fill up with something'...

לִּפְסֹד 'to cause someone to lack something'... etc.'

An intelligent reader will, no doubt, know how to relate various statements of this kind to each other and to form for himself a more or less clear picture of what the causative use of Binyan Pi'el involves. However, it is the grammarian, not the reader, that should be expected to do this.

As the above quotations show, the same Binyan can have different functions with different classes of roots, and in some cases the same root occurs in different Binyanim with distinct functions. Clearly, in order to use the Binyanim correctly, one should know which roots occur in a certain Binyan with a specific function, as well as which roots can occur in a specific set of Binyanim with a certain group of functions; in other words, what is the distribution of roots with respect to the Binyanim and their functions. E.g. which roots occur with Niph'al in its reciprocal "sense", which roots occur with it in its reflexive "sense", which roots can occur both with Pi'el in its intensive meaning and with Pa'al in its

non-intensive meaning, or both with Pi'el in its causative function and in Pa'al with non-causative function. With reference to the roots in each class defined in this manner it may be asked whether they share some semantic or syntactic features. In short, what is required is some information concerning not only the syntactic, but also the lexical and semantic conditions, or environments, which control the choice of each Binyan. Such information can usually be gathered from some of the better traditional dictionaries, where each root is accompanied with a list of the Binyanim in which it can occur and by a definition of its meaning in each Binyan. But, again no traditional grammar offers a coherent exposition, that takes into account all the relevant semantic, lexical, syntactic and morphological facts and uncovers their systematic interrelations.

## 2. The inadequacy of the traditional approach.

This defect of traditional grammars is partly due to the very fact of their being traditional: The material is often arranged and presented not according to what is required by its own inner structure, but according to what is prescribed by a time-honoured tradition. But it is also due to some flaws in the implicit theoretical assumptions underlying the description. Such grammars are word ("parts of speech") - oriented rather than sentence-oriented. Their authors fail to realize that linguistic facts may be visualized as arranged in "ranks" (i.e. degrees of complexity, such as morpheme-word-sentence) on a number of "levels" (such as semantics, syntax and morphology), and that all the ranks and levels are interrelated in ways that are far from being straightforward and simple. This may be



illustrated from the above quotations from Gesenius. These represent the naive view that every formal unit must "have a meaning" and that the unit and its meaning stand to each other in a simple one-to-one relation, such that every occurrence of the unit must bear one variety or another of the basic idea, irrespective of the syntactic or lexical environments. No distinction is drawn between grammatical-semantic categories such as Aspect or Aktionsart (Cf. 13.3) and lexical-syntactic constructions such as causative, reflexive or reciprocal.

That these are serious shortcomings can be verified by examining closely some of Gesenius' examples. Binyan Pi'<sup>s</sup>el, for instance, is alleged to have a single "fundamental idea", to which all the "shades of meaning" in this conjugation may be referred; namely - intensive. Even the causative use of Pi'<sup>s</sup>el is described by Gesenius as a "shade" of the basic intensive meaning, since 'the eager pursuit of an action may also consist in urging and causing others to do the same'. It will be observed, however, that a basic difference exists between the intensive use of Pi'<sup>s</sup>el and the causative use of the same Binyan. If Pi'<sup>s</sup>el in its intensive use is substituted, in the environments of a certain root, by a non-intensive Binyan such as Pa'<sup>s</sup>al, this substitution does not involve any change in the basic syntactic pattern into which the root in question fits. The pattern, which remains constant is in both cases, <sup>is</sup> 'Subject<sub>1</sub> + Verb + Object<sub>1</sub>'. However, if Pi'<sup>s</sup>el in its causative use is substituted, in the environment of a certain root, by a non-causative use of another Binyan (say, Pa'<sup>s</sup>al), this substitution necessarily involves a specific kind of modification in the syntactic pattern. The non-causative pattern with Pa'<sup>s</sup>al is 'Subject<sub>1</sub> + Verb + Object<sub>1</sub>', whereas the

causative pattern with Pi'el is the related construction 'Subject<sub>2</sub> + Verb + Object<sub>1</sub> + Object<sub>2</sub> (= Subject<sub>1</sub>)'. (Compare, for instance Prov 30:2-3 with Ec 12:9). The contrast intensive vs. non-intensive represents a semantic-grammatical category of the verb. It is expressed directly by the distinction between Pi'el and Pa'al in certain specific syntactic and lexical environments (namely, in the environments of the pattern 'Subject<sub>1</sub> + Verb + Object<sub>1</sub>', and a certain class of roots) and only in these environments. The contrast causative vs. non-causative is of a different nature. It is a syntactic distinction, a distinction between two different, though related, syntactic patterns, in certain specific lexical environments. The choice between the causative Pi'el and the non-causative Pa'al does not reflect a selection of one of two contrasting values of a semantic-grammatical category in constant syntactic environments. The difference between the Binyanim in this case has no semantic value of its own. It does not represent any "valeur". Its only function is to serve as a redundant marker of a distinction of which the outward manifestation is the difference between two syntactic patterns.

This basic difference between the intensive and the causative uses of Pi'el can be clearly stated only if the following theoretical principles are presupposed: (a) In describing the functions of a form or a set of forms one has to take into account the sentence - patterns in which the forms in question occur; word-grammars are inadequate. In some cases such patterns are brought in only as part of the specification of the environments in which a certain category holds (as in the case of the intensive use of Pi'el), but

sometimes the function of a form should actually be identified with a certain syntactic pattern (as in the case of the causative use of Pi'el). (b) The functions of a set of forms can be fully explained only if some separation into distinct but interacting levels (such as semantics, syntax, morphology etc.) is assumed. There is no simple one-to one correspondence between units of different levels, say, between the semantic, syntactic and morphological levels. There is nothing unusual in the same formal unit on the morphological level (defined on the basis of criteria appropriate to this level) being in some (syntactic, lexical etc.) environments and realization of a certain semantic value, in some other environments the realization of some different semantic value, and in yet another class of environments - a redundant element, realizing no higher level entity. (Cf. Bazell 1962:132).<sup>+</sup>

### 3. Aspect and Aktionsart

It has been argued above, that the contrast Pi'el intensive vs. Pa'al non-intensive in Biblical Hebrew represents a semantic-grammatical category. The question arises, a category of what kind? One aspect of this question consists in the search for a suitable term, and my suggestion is to adopt here the term Aktionsart. This term has been widely

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+ It should be noted, that the existence of a basic difference such as between the intensive and the causative has been noticed by a number of writers, but it is usually stated in notional terms. Cf. for instance Cohen 1924:8; 'Les valeurs de thèmes.... peuvent exprimer le rôle du sujet par rapport au procès (actif, passif, réfléchi, causatif, factitif etc.) ou un mode du procès (par exemple l'intensité, la répétition)'.

used in connection with the Binyanim, though some writers use the term "aspect" instead (E.g. Nyberg 1929:198). The terms aspect and Aktionsart are generally used with reference to non-temporal auxiliary categories. Some writers draw a sharp distinction between these two concepts. This distinction is discussed in detail in Rundgren 1959, where the whole question is examined against the background of a general theory of verb and clause categories, with extensive documentation from many languages, Semitic and otherwise. (Cf. also Goldenberg 1968:88-95 for a short, but thoughtful survey of the history of these terms and Polotsky 1961 for a particularly illuminating example from modern Syriac). Rundgren summarizes the distinction in P. 89:

'1. Der reine Aspekt stellt eine subjektive Kategorie dar, die von der objektiven Kategorie der Aktionsart grundsätzlich zu trennen ist. 2. Der Aspekt muss innerhalb einer Korrelation studiert werden, die polar und zweigliedrig ist. 3. Der Aspekt soll auch als eine syntaktische Erscheinung beurteilt werden. 4. Ein Aspektproblem stellt immer auch ein Problem der inneren Form dar. 5. Der Aspekt ist als eine allgemeine Kategorie anzusprechen, die nicht ausschließlich auf das Verbum beschränkt ist (This latter statement should be read against the background of another statement. P. 72: 'Der Aspekt hat aber an sich grundsätzlich mit Zeit, Raum oder Aktion nicht das geringste zu tun und kann daher - wie H.M. Sørensen gut hervorgehoben hat - nur in abstracto definiert werden! [Sørensen 1943:230ff]). Demgegenüber stellt die Kategorie, die man nach dem Vorgang Brugmanns heutzutage allgemein als Aktionsart bezeichnet [Brugmann 1904:493], eine rein objektive Kategorie dar. Nach desselben

Gelehrten bezeichnet sie "die Art und Weise, wie die Handlung vor sich geht". .... In der Tat gibt es für jede Handlung eine objektiv gegebene sozusagen natürliche Aktionsart'.

According to Rundgren, the Binyanim express Aktionsarten rather than aspects: (same page) 'Gewisse Sprachen können nun Aktionsarten durch Hilfsörter oder ähnliche Mittel zum Ausdruck bringen, andere - wie die semitischen - haben dafür besondere Formkategorien, wie sie das Semitische in seinen sog. abgeleiteten Stammformen ausgebildet hat'. Unfortunately, Rundgren too, following Bergsträsser [1818:10], Jacobsohn [1926:380-81] and Brockelmann [1908:I.504], falls into the traditional trap in failing to distinguish between genuine Aktionsarten such as intensive, and labels for syntactic patterns such as causative. Cf. for instance P. 50.: 'Schon früh waren in Semitischen besondere Formkategorien, die an sich nur objektive Aktionsarten bezeichneten, wie aktiv, passiv, neutrisch, kausativ, intensiv, konativ und kooperativ, als ein festes System zusammengetreten'. On the other hand Rundgren, unlike Gesenius, does recognize the relevancy of the lexical environments to the question of the functions of the Binyanim. However, the fact that each Binyan is used in a restricted lexical environments makes him pessimistic as to the possibility of making significant generalizations about the functions of the Binyanim: p. 89 f: 'Wenn daher Goetze [1942:2] die sog. intensive Stammform als "ill defined" betrachtet, so ist dies nur allzu wahr..... Es sind vielmehr alle Stammformen mehr oder weniger "ill defined", und sie müssen es verbleiben, so lange wir das System nicht in lexikalische Größen zerlegen'. At least in so far as C.I.H. is concerned, I do not share Rundgren's pessimism and hope to

justify my optimism by the results of this thesis.

My interpretation of the distinction aspect vs. Aktionsart is in general agreement with Rundgren's, but it includes certain additional ingredients. These are, I hope, non-trivial, though to a certain extent they may be viewed as merely reformulations of Rundgren's concepts:

(a) From a semantic point of view, aspect (like tense) may be characterized as a deictic category; that is, its values are selected from the viewpoint of a specific person (e.g. the speaker, the hearer etc.). Thus, what is expressed by a clause containing this category is made relative to some person's determinate outlook in a certain particular situational context. When purely non-temporal aspectual categories are concerned, the decisive factor in the selection of the values is the person's attitude. When a temporal category such as tense is concerned, such contextual-situational factors as the time of utterance play a prominent role. Certain deictic categories, e.g. personal pronouns, bring into play other pragmatic factors, such as the place of utterance etc.

(b) Therefore, aspect (like tense) is associated not with a clause-type as such but with each utterance (for the distinction sentence vs. utterance cf. Bar-Hillel 1967:542ff and Lyons 1968:52, 170 ff).

(c) More specifically, aspect (like tense) is a category of the main clause. Notice that in many languages tense and aspect distinctions tend to disappear when the main clause is nominalized. E.g. 'She told him to leave' --> 'Her telling him to leave'. 'I am walking', 'I walk' --> 'My walking' etc. Arabic 'xalaga gsa'ma:?a 'He had created heaven' (perfect aspect, referring to past event) --> 'xalqu

ssa'ma:ʔi 'The creation of heaven' (no aspect or tense). Notice also that in some languages most subordinate clauses with free tense and aspect selection are restricted to the environments of certain specific governing verb (e.g. verbs of thinking, speaking etc.) and it is often possible to replace the clause by a tenseless phrase: 'They told me that my father was ill' or 'They told me of my father's illness' (this applies only to obligatory parts of the sentence, not to optional ones, such as certain types of adverbial clauses of place and time, or relative clauses functioning as nominal adjuncts). It will be observed also that the time reference of certain subordinate clauses in English and other languages cannot be freely selected but is limited by the lexical content of the governing verb: \*'I want him to have come here yesterday'.

That there is a special relationship between tense and aspect and the main clause is not surprising, since the latter, as the chief carrier of the message of the sentence and as the main tool for the "communication event" is more intimately associated with such pragmatic, contextual-situational factors as the speaker's attitude and the time and place of speaking. Therefore it is, as it were, the natural place for such deictic categories as tense and aspect to be. To put it differently, tense and aspect are directly relevant not to the proposition and its content, but to the functioning of its parts (as topic and comment of the main clause) in speaker and audience's communication. Now, since tense and aspect are related to the communication event as a whole, they cannot be regarded as associated with any particular part of the sentence. They are super-imposed in the whole



clause. The question whether tense or aspect are present in or absent from the clause is almost totally independent of the question what lexical items are selected with the clause-type. E.g. the past tense in English can be selected in any lexical environments. The continuous aspect ('be-ing') may be selected with any verb except a small class of "sense verbs" such as 'see' 'hear' and 'feel' and the so-called "modal verbs".<sup>+</sup>

On the other hand Aktionsart is a non-deictic category. Its selection is independent of any person's standpoint or of any context of situation. It belongs neither with the clause, nor with any of its parts. It is a category associated with a set of roots (not necessarily with all verbal roots). Its primary function is, as it were, to increase the number of items in the lexicon, to enrich the latter with fine semantic distinctions.

Contrary to tense and aspect, Aktionsart is preserved in nominalizations. E.g. the ingressive Aktionsart in C.I.H.:

hu	ni	'kav(ingressive)	---	ha	hi	ax'vut	{e'lo
'He	is lying down'			'The	lying down	of him'	
hu	{o'xev	(non-ingressive)	---	ha	{xi'va	{e'lo	
'He	is lying'			'The	lying	of him'	

(Cf. 2.1.3).

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<sup>+</sup> However, it has been recently suggested by Thorne and Boyd (1969: 11f.) that the verb "can" serves with these verbs as a conditioned variant of the progressive. If this is accepted, then the progressive may be said to be virtually independent of any lexical environments, as "modal verbs" may perhaps be viewed as grammatical, rather than lexical elements.



#### 4. Recent suggestions concerning the functions of the Binyanim in modern Hebrew

The question of the uses of the Binyanim in modern Hebrew has until now been almost totally neglected. However, one occasionally encounters relevant observations and remarks in studies devoted to other topics. For instance, in Rosen 1956: 189-90 this question is used as an example to clarify the Saussurian notion of valeur. (The notion itself is discussed by Rosen, but not mentioned by name):

'... Binyan Niph'al, for instance "has" several meanings, and these are listed in most books in a manner that will be detailed presently. But before this is done, it should be stated, that it is clear from what has been said here, that a sentence beginning like that is wrong right from the outset. No Binyan has meaning, as no other element - taken alone and on its own - has any meaning. Binyan Niph'al can have meaning only in contrast to some other Binyan. It is right to state that Niph'al has passive meaning, since the contrast active vs. passive does exhibit itself in many cases in which one contrasts this Binyan with one of the other Binyanim:  $ni \{ 'bar / \{ a'var; ni \{ 'na \} / hi \{ 'ni \} ; ni \{ 'lac / \{ i'lec. But it is wrong to state, that Niph'al "has" reflexive meaning. There is no contrast between Niph'al and another Binyan (at least not as a systematic relation), that can be interpreted as a contrast between an action of which the goal is some other object and an action of which the goal is its own agent. We should say, that forms such as  $niz'har, ni \{ 'mar$  are indeed meaningful, but their Binyan has no reflexive meaning, since it does not$

stand in regular contrast with another Binyan. [Translated by me from the original Hebrew S.A.] .

The importance of the concept "valeur" is of course not overstated by Rosen. This concept readily explains, for instance why the intensive Pi'el and the non-intensive Pa'al in Biblical Hebrew, which contrast in the same syntactic and lexical environments, can be said to define a semantic-grammatical category, whereas the causative Pi'el and the non-causative Pa'al, which do not contrast in the same syntactic environments, cannot be said to have any semantic value (cf. above). Unfortunately, Rosen illustrates these notions with the wrong examples. Apart from factual mistakes such as the allegation that (in Israeli Hebrew) ni'lac (Niph'al of the root ל-כ-ח) is the passive of i'lec (Pi'el of the same root), Rosen's examples include the same old confusion between two forms contrasting in terms of meaning and two forms that are associated with different but related syntactic patterns. The relation between active and passive is a relation between two syntactic patterns. In terms of meaning an active sentence is equivalent to, not contrasting with, its corresponding passive sentence (I ignore topic-comment and similar differences). It is wrong to state that Niph'al has "passive meaning". The passive Niph'al is just an empty morph, automatically introduced if the verb in a passive syntactic construction belongs to a certain specific class.

As mentioned above, the concept "valeur" is meaningless when such relations as a Binyan in a non-causative use vs. a Binyan in a causative use, or a Binyan in an active

use vs. a Binyan in a passive use are concerned. However, when two Binyanim are regularly associated with different, though related syntactic patterns, there is no harm in extending the notion of "relatedness" to the Binyanim themselves and using the expression "related Binyanim". Two or more Binyanim can be said to be related if they are regularly associated with certain different, though related syntactic patterns in the environments of the same class of roots.

By "sameness" I mean not only identity in phonological representation but also simultaneously identity in meaning.

E.g. Hithpa'el and Pi'el are related in

jo'sef hitga'lex and jo'sef gilex et david

'Joseph shaved' 'Joseph shaved David'

since in these sentences the Binyanim are associated with the different, but related syntactic patterns 'Subject<sub>1</sub> + Verb + Object<sub>1</sub>' (active, transitive, non-reflexive) and 'Subject<sub>1</sub> + Verb + Object<sub>1</sub> (= Subject<sub>1</sub>)' (active, transitive, reflexive. [For a more accurate account of reflexive constructions cf. 2.10.1] in the environments of the same root, g-l-\*, which in both cases has the same meaning 'shave'.

However, the same two Binyanim are unrelated in

josef hitpa' } et and josef pi' } et et ha hesber

'Joseph stripped' 'Joseph simplified the explanation'

although they are associated here with exactly the same two syntactic patterns as in the first example and occur in the environments of the same root (f/p- } -t). The reason why they are unrelated is the fact that the root has different meanings in the two constructions: 'strip' in the reflexive construction and 'simplify' in the non-reflexive one. The non-reflexive counterpart of the reflexive sentence with

'strip' is josef hif' } it et david

'Joseph stripped David ', with Hiph' il  
rather than Pi'el.<sup>+</sup>

Another suggestion worth mentioning here is included in two footnotes in Téné 1968. In footnote 30 (p.190 f), one reads:

'The "reciprocity" of such words as hitan'ek  
'kiss', [root n- } - k, Binyan Hithpa'el S.A.] , hitxa'bek  
'embrace', [root x-b-k, Binyan Hithpa'el. Téné's examples  
are from C.I.H. - S.A.] is an instance of variation of con-  
tent of which the source is the permanent co-occurrence of  
the signifiés of the Binyanim Pi'el, Pu'al and Hithpa'el.  
The signifié "neutralization of the contrast between active  
and passive", which is Hithpa'el's signifié in other  
environments, is realized in this environment as the variant  
"reciprocity".....As long as there are no two contrasting  
Binyanim in the environments of the same root, such that  
the signifié of the one is "neutralization of the contrast  
active vs. passive" and of the other "reciprocity", there  
is no choice but to regard the "reciprocity", as a variant,  
that is, as a conditioned variant of the plane of content  
of the invariant "neutralization of the contrast active  
vs. passive". '

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<sup>+</sup>This is an exception in C.I.H.).

It is not easy to comment on this note without referring to the theoretical framework it presupposes, one which incorporates ideas based on de Saussure, Trubezkoy, Jakobson and Hjelmslev. However, only a superficial examination is needed to reveal in this note the same old confusion between semantic-grammatical categories and syntactic patterns, this time behind a facade of modern terminology. As was argued above, the relation between active and passive is not a "contrast", but a transformational relation between two syntactic patterns. Now, since it is not a contrast, it cannot neutralize.<sup>+</sup> The relation between the patterns with Pi'el and Pu'al and the pattern with Hithpa'el in the above example would be better characterized by such traditional terms as "active transitive" (or, in some cases, "causative"), "passive transitive" and "middle transitive" which emphasize the syntactic nature of the entities they refer to. Now, it will be observed that verbs such as hitna' } ek 'kiss one another' and hitxa'bek 'embrace one another' are not middle intransitive. The sentence 'x and y kissed one another' can be described as a transform of the conjunction of the two active transitive constructions 'x kissed y' and 'y kissed x' (simultaneously).

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<sup>+</sup> Furthermore, to characterize the signifié of a form as "the neutralization of the contrast between x and y" is an idiosyncratic use of the term signifié, even if the contrast in question constitutes a genuine category.

(For a more detailed discussion cf. 2.10.2 )+.

However, C.I.H. includes a class of inherently reciprocal verbs, which are intransitive and have corresponding causative constructions. E.g.

jo'sef ve 'dalja hitxat'nu (reciprocal intransitive)  
'Joseph and Daliah got married' (same)

da'vid xi'ten et jo'sef ve et 'dalja (reciprocal  
'David married off Joseph and Daliah'

causative, with a corresponding passive causative).

If Tene's argument, that the "reciprocality" of Hithpa'el in the environments of certain roots in a conditioned variant of the invariant of content "neutralization of the contrast between active and passive" is valid at all, it can be valid only with reference to roots such as x-t-n, not with reference to roots such as n- } -k. I contend, that neither the reciprocity of hitxaiten, nor its intransi-

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<sup>+</sup>In general it would be a mistake to regard every syntactic pattern in which the verbal root takes Hithpa'el and which has corresponding active transitive construction in which the root takes Pi'el and passive transitive construction in which the root takes Pu'al, as a "realization" of a middle intransitive pattern. E.g. the root g-r-d 'scratch' occurs with Pi'el in active transitive constructions, with Pu'al in passive transitive constructions and with Hithpa'el in constructions which will be specified presently. But the word hitga'red has both a reflexive "sense" and a non-reflexive one. E.g.

	jo'sef	hitga'red			
	'Joseph	scratched himself'		and	
ha	'njar	hitga'red	m	ha	kir
'The	paper	scratched	off	the	wall'
		(rubbed)			

It is impossible to describe the reflexive "sense" here as a conditioned variant of the "sense" middle intransitive, since what is supposed to be the conditioning environments the root, is identical in both cases. However, the point is really that the term "reflexive" does not refer to a "sense" of hithpa'el but to a syntactic construction that constitutes a special instance of an ordinary active transitive construction.

tivity have anything to do with some "signifié" of Hithpa'el. Furthermore, Hithpa'el has in this context no signifié. It has no semantic value, or, for that matter, syntactic function. The reciprocity of this verb is an inherent semantic quality of the root x-t-n (with certain outwards manifestations) and the word "intransitive" is just a label for a certain syntactic pattern in which this root has been placed. The Binyan is just a "dummy", a redundant element obligatorily introduced when certain reciprocal roots are placed in an intransitive pattern.

Téné argues that the absence, in the environments of the same root, of a contrast between an intransitive Binyan and a reciprocal Binyan implies that the latter "sense" is a variant of the former "sense". With the aforesaid in mind it is easy to see why this argument is invalid. Transitivity and reciprocity are not contextual variants of each other, they are concepts of a different order and are not mutually exclusive in the same environments. If "reciprocity" is really a realization of the feature "neither active nor passive" in the environments of certain roots then any two verbs that are neither active nor passive and contain the same root must be either both reciprocal or both non-reciprocal. But C.I.H. provides at least one counter example, that is, a case in which the same root can occur with two different Binyanim in a construction that is neither active nor passive, such that with one Binyan the verb is reciprocal and with the other non-reciprocal. E.g.

Reciprocal, jo'sef nif'ga} im da'vid (root  
 neither active 'Joseph met with David' f/p-g-}  
 nor passive jo'sef ve da'vid nifg'}u Binyan  
 'Joseph and David met (each Niph'al)  
 other)'

non-reciprocal, jo'sef pa'ga} et da'vid (Binyan  
 neither active 'Joseph met David' Pa'al)  
 nor passive

\* 'da'vid nif'ga} al jdei jo'sef  
 'David was met by Joseph'

\* da'vid ve jo'sef pag'}u  
 'David wand met Joseph met'

active causative mo'}e hif'gi} et jo'sef ve da'vid  
 and 'Moses got to meet Joseph and David'  
 passive causative each other

jo'sef ve da'vid hufg'}u al jdei mo'}e  
 'Joseph and David were got to by Moses  
 meet each  
 other

A much more interesting remark is included in footnote 37, p.202 in the same article. In this footnote Téné suggests that 'the paradigm of the signifiés of the Binyanim that are used with a given root is conditioned by the inner organization of the root-signifié within its own paradigm'. This is illustrated as follows: 'The root m-t 'die' can occur with three Binyanim: Hiph'il: causative non-passive, Hoph'al: causative passive and Pa'al: non-causative, the contrast active vs. passive neutralized'. The root h-r-g 'kill' can occur with two Binyanim only; Pa'al: non-passive and Niph'al: passive. m-t in Hiph'il and h-r-g in Pa'al are synonymous, but their signifiés are differently organized. The inner organization of m-t in Hiph'il is 'termination of life+causing, non-passive' and that of h-r-g in Pa'al - 'causing termination of life + non-passive', such that the signifié represented by the expression on the left side of the symbol ' + ' in each case is contributed



by the root, and that on the right side of ' + ' -  
 by the Binyan. Though Téné repeats here the mistake of  
 attributing to the Binyanim what are in fact qualities of  
 syntactic constructions that are defined by certain particular  
 classes of verbal roots, his observation strikes one as  
 significant. I will return to this question in 2.1.6..

## 5. Conclusions

It follows from the above discussion that any  
 adequate description of the functions of the Binyanim must  
 include, in one form or another, the following features:

(a) A sharp distinction should be drawn between the case in  
 which certain Binyanim contrast in meaning in the same syntactic,  
 lexical and semantic environments and realize a category of  
 Aktionsart, and the case in which certain Binyanim are asso-  
 ciated with different though related syntactic patterns in  
 the same lexical and semantic environments.

(b) In the former case the description must characterize the  
 Aktionsart category and include rules which introduce the  
 Binyanim, that realize the values of the category. The  
 syntactic, lexical and semantic environments must be intro-  
 duced as conditions under which the rules operate. If in  
 certain lexical and semantic environments the Aktionsart  
 contrast neutralizes, the description must specify these  
 environments.

(c) In the latter case, the description must characterize  
 the syntactic patterns and show exactly how they are related.  
 It should include rules introducing the Binyanim. The  
 lexical and semantic environments must be introduced as  
 conditions under which the rules operate.

#### 1.4 The raw material for the thesis

Since I am a C.I.H. speaker, I could use myself as an informant and construct most of the examples. In cases of doubt I consulted the following sources:

- (a) Five tapes of live conversations in C.I.H., recorded by me in 1967 in the phonetic laboratory of the department of Phonetics and Linguistics, School of Oriental and African Studies, University of London.
- (b) The book 'siax na loxamim' 'Talk of fighting men', a collection of recorded discussions among Kibbutz members who fought in the Six Days War.
- (c) Blanc 1964, 1956c.
- (d) The Israeli newspaper Maa'riv.

The constructed examples will be left unmarked. The authentic ones will be followed by '(A)', without mentioning the specific source in each case.

#### 1.5 The technique employed in compiling the index of roots.

Only bi-consonantal and tri-consonantal roots were included, on the assumption that quadri-consonantal roots behave in the same way as tri-consonantal roots with respect to everything that is relevant to this thesis.

All possible two-place and three-place permutations of the C.I.H. consonants were examined (x and \* were considered different consonants and so were ? and @) and all combinations of consonants which do not constitute roots in C.I.H. were eliminated. Then the following groups of

roots were eliminated: (a) Borrowed roots, if they are still felt as such (b) Roots which belong to highly specialized types of discourse. Army and school slang were not excluded, since they are used by most speakers, not just by small 'in-groups'. In deciding what should be eliminated and what should be retained I largely relied on my intuition as a native speaker, but occasionally I had to consult dictionaries and texts.

The result of this procedure is a list of 1,303 entries, including what appears to me to be the most typical uses of each root (the question what constitutes an entry and what amounts to a distinct use of a root is taken up in 1.6. and in the introduction to the index of roots).

Admittedly, this technique is far from being ideal. However, more adequate techniques (such as corpus analysis) can only be employed in a work of far greater scope.

#### 1.6. Theoretical preliminaries and notations

The description in part 2, does not follow any rigid model such as T.G., Stratificational Grammar etc. However, many of the basic tenets underlying the main streams of current linguistic work are taken for granted. In several respects I find myself particularly attracted to the ways of thinking characterizing a number of "post Chomskyan" American linguists, such as Lakoff, Ross, McCawley, Gruber, Bach and, notably, Fillmore. Unfortunately most publications coming from this group are not generally available, and so I cannot claim to have made any detailed study of this school.

(in as much as it does at all constitute a coherent school).

One of the novelties introduced by members of this group is the total or partial rejection of deep structure as a level, and its replacement by more abstract syntactic-semantic configurations. The latter are sometimes represented by means of notations borrowed from various fields of mathematics and logic, notably the predicate calculus, a field which served me too as the main source of the notational devices described in this chapter. For details and references Cf. DeArmond 1968. Cf. also Fillmore 1968<sup>4</sup>.

Both the suggestions concerning points of theory and the notational proposals in this chapter should be regarded as tentative. The application of mathematical and logical models to natural language is a formidable task, and an extremely delicate one. I cannot claim to have achieved anything of the kind. The symbolic notation is used here mainly as a kind of shorthand, to give the research results a neater look. Most concepts are used metaphorically, this is justified by a certain similarity which exists between some facts of natural language and some facts of artificial language systems of symbolic logic.

#### 1. Basic Predications (B.P.s) and their form.

A stem-lexeme is a class of stem morphs which have the same meaning. Certain stem-lexemes are said to define a B.P., of which the stem is the predicator, or at least a part of the predicator. No B.P. exists independently of the predicator, or class of predicators which defines it.

## 2. Predicators

Every B.P. is a complete lexico-syntactic expression (Cf. p.58).<sup>1</sup> A predicator is defined as an expression which in itself is incomplete but which together with a limited and definite number (at least one) of classes of expressions forms a complete expression, a B.P.

The class or classes of expressions which complement the predicator are called the arguments of the predicator.

The expressions over which each argument ranges are of two kinds: Some are themselves B.P.s. The other are names. The notion of names is discussed in 1.6.4. Names and predicators are the only "deep" "parts of speech" in the present model. Classes such as nouns, verbs, adjectives etc. cannot be entirely dispensed with, but they have a rather limited range of uses, and are introduced at a "late" stage by formation rules (cf. p.113 f.).

In our notation the predicator will be enclosed within square brackets and its arguments will be written outside the brackets. E.g. 'x [square]: 'x,y [kill] ', etc. As mentioned above some predicators consist of more than just a stem lexeme. In most cases these predicators include lexical-grammatical categories, such as the Aktionsart category Dynamic (Progressive) VS. Static (Resultant) in Modern Syriac (Cf. Polotsky 1961: 22). Such categories have some features in common with the predicator's arguments: like the latter, each specific individual category constitutes a class of expressions, and is presupposed by the stem-lexeme. However, unlike some of the

arguments, the lexical-grammatical categories in the predicator usually consist of a small and limited number of elements of a definite class.

Lexical-grammatical categories of this kind are not introduced by any special rules. They constitute an integral part of the predicator and are included in the dictionary entry of which the predicator is a part. This is justified by the fact that such categories are, as mentioned above, presupposed by specific stem-lexemes. Certain stem-lexemes obligatorily take a specific Aktionsart category. Certain others never occur with any Aktionsart features (cf. p. 35 ).<sup>2</sup>

Some predicators include, besides a stem-lexeme or a stem-lexeme and an Aktionsart category, certain additional elements. Some of these elements will be mentioned below, but only briefly, since most predicators discussed in this thesis consist of a stem only or of a stem and an Aktionsart category.

### 3. Primitive and complex properties and relations

A predicator designates a certain specific property of each of the things referred to by any of the names in its arguments, or a certain specific property of each of the properties designated by any of the B.P.s in its arguments. Thus, the predicator 'round' in the B.P. 'x [round] ' designates the property of roundness, shared by all the things referred to by the names 'The hat', 'The record', etc., if these names are members of the range of the variable 'x' in 'x[round] '. The predicator 'rare' in the B.P. 'x [rare]'

designates the property of rarity, shared by all the properties designated by the predicators 'sincere', 'honest', etc., if these predicators (with their B.P.s) are members of the range of the variable 'x' in 'x [rare]'. (E.g. 'It is rare for someone to be sincere', 'Honesty is rare', etc.).<sup>3</sup>

Some predicators designate a relation between pairs of things or properties, where one member of each pair is referred to by a name, or designated by a predicator in one of the predicators' arguments, and the other member - by a name or a predicator in another specific argument of the predicator.

To put it somewhat more formally, a predicator defines a class of things (or a class of properties), each of which being designated by an expression, which is a member of one particular argument of the predicator in question; or, a predicator defines a class of pairs of things (or properties) each pair being designated by an ordered pair of expressions. Let such pair be denoted by 'a,b', where 'a' is the first co-ordinate and 'b' is the second co-ordinate of the pair. The term 'ordered' means that 'a,b'  $\neq$  'b, a' (unless the relation is symmetric) and that 'a,b' = 'c,d' if and only if 'a = c' and 'b = d'. Each co-ordinate is a member of one particular argument of the predicator in question and the two co-ordinates are not members of the same argument.

Examples: 'x,y [kill] ', 'x,y [son (of)] ', 'x,y [tall (er than)] '.

Predicators which designate just a single property or a single relation are called primitive predicators.

Predicators which designate an unordered or ordered set of properties or an unordered or ordered set of relations, or an unordered or ordered set of properties and relations are called complex predicates.

#### 4. The values of the variables and the rule of instantiation

When I introduced the notion of "completeness" of B.P.s I omitted one important stipulation: A B.P. is not to be regarded as complete, unless it includes a symbolic device carrying the information that every value of each of the variables (i.e. every expression which is a member of the range of this variable) is allowed to be substituted for the variable-symbol itself, without resulting in a different B.P. What will be obtained by each substitution may be called an instantiation of the same B.P. within the same language.

The symbolic device for this purpose will be to prefix all the variables of the B.P. to the B.P. itself and separate the prefixes from the rest by two dots. E.g. 'a, g:a, g [R]', which is to be read: For any arbitrarily chosen value of the variables 'a' and 'g' and the expression 'a, g[R]' is a B.P. in the description of language L.

From now on the prefixed variables will be usually omitted, on the assumption that their presence should always be understood.

The Relationships between a B.P. and any of its instantiations are explained by the following general rule:



Universal Instantiation (U.I.): In a given B.P. in the description D of language L, any arbitrary value of any of the variables may be substituted for the variable symbol itself, and thus an instantiation of the same B.P. within D of L is obtained. Example: Each of the expressions 'y:a,y [R] ', 'x:x,b [R] ' and 'a,b [R] ' is an instantiation of 'xy:x,y [R] ', where the range of each of the variables 'x' and 'y' includes the values 'a' and 'b'.

U.I. is a formal universal (Chomsky 1965: 27ff). It does not belong to the description of any particular language.

In some cases the application of U.I. is not obligatory, that is, formation rules can apply without presupposing the application of U.I. There are many examples when it is not applied, and nevertheless the B.P. is realized in an actual formation. In some languages the variables to which U.I. has not been applied are usually 'deleted'; E.G. 'John is deaf. He cannot hear but he can see'. The B.P. defined by 'see' is 'x,y:x,y [see] ', but U.I. has not been applied to 'y', therefore the latter has no manifestation in the sentence.<sup>4</sup>

It should be emphasized that a B.P. such as 'a,g:a,g [R] ' says nothing about the identity of the values of the variables or about the size of their range. This latter information is provided in two ways. First by a general principle, given in advance. The principle states: The range of any variable consists potentially of two types of expressions, names and B.P.s. Names are defined as expressions which in themselves are incomplete, but which

together with at least one constant or with a constant and at least one class of expressions, forms a complete expression which is an instantiation of a single B.P.

Let us compare the definition of predicates with the definition of names given above.

Both names and predicates are incomplete expressions. Predicates are completed by a class or a number of classes of expressions, together with which they form a B.P. A name is completed not by a class of expressions but by a single constant expression (which will always be a predicate), together with which it forms not a B.P. but an instantiation of a B.P.

These definitions determine for many expressions unambiguously whether they are names or predicates. Names are all those unanalyzable lexemes which refer to a single definite object (singular terms). These include most proper names as well as terms such as 'the sun', 'the earth', etc. They can combine with a predicate to form complete instantiations of a B.P. Otherwise they can form neither a B.P. nor an instantiation of a B.P. Example: 'Hyde Park Corner' (when used normally) is a name, since it combines, for instance, with the constant expression 'famous' to form the complete expression 'Hyde Park Corner [famous]', which is an instantiation of the B.P. 'x:x [famous]'. It cannot combine with a class of expressions to form an instantiation of a single B.P. (unless it also combines at the same time with a single constant expression). True, it combines with the class of expressions which includes, for instance 'beautiful', 'ugly', 'clean', 'dirty', etc. to form instantiations of B.P.s. However, it will be observed that

'Hyde Park Corner [famous] ', 'Hyde Park Corner [beautiful] ', 'Hyde Park Corner [ugly] ', etc. are not all instantiations of one and the same B.P. Each of them is an instantiation of a different B.P., though all the B.P.s belong to the same class, or type (cf. 1.6.12).

All simplex lexemes which are not names will be predicators. E.g. '(to) walk', 'nice', '(a) talk', '(a) tree' etc. They can form complete B.P.s together with a class, or a number of classes of expressions. Examples: '(to) walk' is a predicator since it can form a B.P. with the class of expressions which includes 'John', 'the man', etc. It cannot form a B.P. with a single constant expression: 'John [walk] ' is a complete expression, but it is an instantiation of a B.P., not a B.P.

Notice that according to our definition common nouns are considered predicators. Consider, for instance, the common noun '(a) man'. It defines the B.P. 'x [man]'. The range of the variable 'x' includes such names as 'Albert Einstein', 'Napoleon' and 'John' and such B.P.s as 'y pigmie ' and 'y giant ' (underlying the sentences 'Albert Einstein (was) a man', 'Napoleon (was) a man', 'John (is) a man', 'A pigmie (is) a man', 'Giants (are) men', etc.) In this sense '(a) man' is not different from 'nice' which defines the B.P. 'x [nice]', where 'x' has both nouns such as 'Albert Einstein' and B.P.s such as 'y [swim]' in its range, giving sentences such as 'Albert Einstein (was) nice' and 'It (is) nice to swim', or 'swimming is nice', etc.

Definite determiners such as the definite article and demonstrative pronouns usually have the effect of

turning the common noun to which they are attached from a predicator into a name. This does not apply to expressions such as 'the tip', 'the top', 'the father', 'the hand' etc. These should be considered predicators even though they include the definite article, because each of them presupposes a class, e.g. 'the top' presupposes the class The (a) mountain, the (a) hill, the (a) head etc. In the expressions 'The top of the mountain', 'the mountain has a top', 'the top of the hill', 'the hill has a top' etc., 'the mountain', 'the hill' etc. function as genitive (Cf. p. 187 ).

In sentences such as 'This is John's pen', 'John has this pen' etc., where 'pen' does not presuppose a class, the underlying predicator is a combination of 'the pen' and an element which turns the latter into an expression requiring a genitive, e.g.: 'the pen of' or 'have the pen'.

If the above proposals are accepted, then the (perhaps analytic) sentence 'the hill has a top' (where 'top' is <sup>alienable</sup> "intransferrable") should be analyzed differently from 'John has a pen' (where 'pen' is <sup>"alienable"</sup> transferrable). In the former 'have' is a superficial element introduced by formation rules. In the latter 'have' is (or, rather, represents) an element which constitutes an integral part of the predicator.

In p. 49 it has been mentioned that some predicators include more than just a stem or a stem plus an Aktionsart category. Except the element 'have' mentioned above, there is a variety of elements which can in certain circumstances

form a part of a predicator. Among these are certain derivational affixes and certain prepositions. E.g. suffixes that derive abstract nouns from adjectives: 'goodness'; suffixes deriving adjectives from proper nouns: 'cartesian'; the prepositions 'of', 'at', 'in' etc.: 'of Manchester', 'at home', 'in the afternoon'. I shall not go into more detail here, since most predicators discussed in this thesis do not include any elements except a stem and an Aktionsart category. It should be stressed again, that the distinctions between nouns, verbs, adjectives, prepositional phrases etc. are not considered "deep" distinctions in the model proposed here, even not for the purpose of what is called by Chomsky "strict subcategorization" (1965: 93 ff.). The only "deep" categories in this model are B.P., name and predicator. (Cf. p. 113 ff.).<sup>5</sup>

The rest of the information concerning the identity of the variables' values is included in each predicator and its meaning. The range of the variables is determined negatively, in that any expression which contradicts the predicator is excluded from the range.<sup>6</sup>

There are predicators which exclude all B.P.s from the range of all of their variables (leaving only names in the range). These are called 'first type predicators'.<sup>7</sup> E.g. 'famous': 'Einstein is famous', but not \*'A man is famous', \*'Beauty is famous', etc.<sup>8</sup> There are predicators which exclude any name from the range of some or all of their variables. E.g. 'rare': 'Beauty is rare', but not \*'Einstein is rare'.

## 5. Variables and their order

As mentioned above, the predicators' arguments are represented in the B.P.s as variables, ranging over B.P.s and names. In case the variables constitute an ordered pair, in other words, in case they are the co-ordinates of a relation, the second co-ordinate will (in our notation) follow the first co-ordinate in an horizontal or vertical line, e.g. 'x,y [R] ', where [R] is a complex predicator, designating simultaneously two relations, a relation between 'x' and 'y', the former being the first co-ordinate and the latter the second co-ordinate, and a relation between 'y' and 'z', the former being the first co-ordinate and the latter the second co-ordinate. Examples: 'x,y [sell] '.<sup>9</sup>

## 6. Ergative and non-ergative B.P.s.

The dictionary entry, in other words, the unit that is assigned meaning in the lexicon consists not just of a stem lexeme or whatever constitutes a predicator, but of the whole B.P. At least from a semantic point of view the arguments of a predicator, unlike the environments of a morpheme, cannot be regarded just as contexts in which a predicator occurs and by which its distribution is defined. Without its arguments the predicator is, as mentioned above, an incomplete expression. It is, as it were, less than a unit. By saying that each of the two expressions 'x [move] ' and 'y,x [move] ' is complete, one means that in the former 'x' and ' [move] ' presuppose each other and nothing else, and the same applies to 'y' 'x' and '[move] ' in the latter. It follows that 'x' in 'x [move] ' and 'y'

and 'x' in 'y,x [move] ' are predictable, or redundant. They do not contribute to the B.P. any meaning feature that is not already implied by the predicator itself (this applies of course only to the arguments, the "places" of the predicator, not to any of their values).

On the other hand if two identical predicators define different B.P.s these predicators necessarily differ in meaning, though their meanings may overlap. E.g. 'shine' has different meaning in sentences such as 'The brass shines' and different meaning in sentences such as 'John shines the brass', since in the former it defines the B.P. 'x [shine] ' and in the latter it defines a different B.P. 'y,x [shine] '. That its meaning in the former is different from its meaning in the latter is verified by the fact that 'John shines the brass' implies 'John performs an action on the brass', whereas no action is implied by 'The brass shines'. This is verified by the unacceptability of the sentence \*'He is moving the stone without performing an action on it.'<sup>10</sup>

Given the above discussion (including note 10) and, in addition, the considerations concerning the constituent structure of B.P.s in 1.6.11, it is clear that there is no need to generate B.P.s by means of special rules. Each B.P. is just given in the lexicon as an entry. Furthermore, on the level of B.P.s there is no distinction between syntax and lexicon. The two are just two sides of the same coin. Syntax, as distinct from lexicon, consists of the applications of U.I. and E.S. (cf. 1.6.8) rules for deriving the converse of a B.P. (cf. 1.6.9 ) and of formation rules (cf. 1.6.10).

In pairs of B.P.s such as 'x [move] ' - 'y, x [move]', 'x [shine] ' - 'y, x [shine] ' the same stem defines two different B.P.s, the one properly included within the other both formally and semantically. Let us use the symbol '[R]' to stand for any predicator with the same characteristics as '[move]' and '[shine]'.

In my notation '[R]' will be represented as '{y} , x [R] ', indicating that it defines two alternative B.P.s, 'x [R] ' and 'y, x [R] '. In 'x [R] ' the only obligatory argument is 'x'. In 'y, x [R] ' both 'y' and 'x' are obligatory.

Many languages have classes of B.P.s with the structure '{y} x [R] '. The term 'ergative B.P.s' will be used here for B.P.s of the type 'y, x [R] ' and the term 'non-ergative B.P.s' - for B.P.s of the type 'x [R] '.<sup>11</sup>

When an argument is placed in round brackets, e.g. 'x, (y) [eat] ', this shows that it is obligatory in the B.P. but optional in formations which realize this B.P. (In T.G. terms '(y)' is obligatory in deep structure but can be deleted in surface structure).

## 7. The status of B.P.s relatively to the semantic and syntactic descriptions

As has been mentioned in p. 57 B.P.s can serve as dictionary entries, i.e., they are the units that are assigned meaning in the lexicon.<sup>12</sup> On the other hand B.P.s are the basis for the application of U.I. (cf. 1.6.8), E.S. (cf. 1.6.8), rules for deriving the converse (cf. 1.6.9) and formation rules (cf. 1.6.10), that is, they



serve as the basis for the syntactic description.

The fact that B.P.s occupy an intermediate position between syntax and semantics may be reflected in the labels given to the variables. Up to now the variables were represented by arbitrarily chosen letters, such as 'x', 'y' and 'z'. But there is no reason why the choice of labels should not be motivated by syntactic and semantic considerations. Let us first consider the kind of labels which are relevant to the semantic description. This will be demonstrated by an example. Instead of 'x' and 'y' in 'x,y [kill]' one may have 'k', 'kd' for 'the one who kill(s), the killer' and 'The one killed, the killed' respectively. Though there is no harm in these labels, they are completely redundant: They contribute nothing to the semantic description. But suppose that instead of 'k' and 'kd' the labels 'a' for 'actor' and 'g' for 'goal' were used. These labels are more useful, since they explicate semantic features that are implied by the predicator but not manifested by it overtly. From these labels one learns that 'x,y [kill]'  $\subset$  'x,y [perform an action on]'. Furthermore: If 'kiss' were represented as 'x,y [kiss]' or as 'kis, kised [kiss]' neither the former nor the latter would provide any indication of the fact that 'kiss' and 'kill' share the semantic feature 'perform an action on'. This fact would be indicated if both 'kiss' and 'kill' had 'a' and 'g' as labels for their variables.

It will turn out that a great number of roots share the feature 'perform an action on'. In this sense the labels 'a' and 'g' are a powerful semantic device. (Syntax

is ignored for the time being). However, such powerfulness means, (again from a purely semantic viewpoint,) a lesser degree of delicacy. Greater delicacy would be achieved if the variables were given labels which set up smaller classes of stems. Suppose, for instance, that the stems 'shut', 'lock', 'block', 'cover', etc. have the variables labelled 'cl', 'cd' (for 'the closer' and 'the closed') instead of 'a' and 'g'. This will indicate that 'x,y [shut]', 'x,y [lock]', etc. are all included in 'x,y [CL]' (CL = the relation of closing), in other words, they all share 'CL' as a meaning feature.<sup>14</sup> In this way there would be set up a much smaller class of roots than if 'a' and 'g' would have been used, and the delicacy of the semantic classification would increase at the expense of its powerfulness.

To sum up: With view to the semantic description only (ignoring completely the syntactic description) the major factor which will eventually determine the choice of labels for the variables is the degree of powerfulness (as opposed to the degree of delicacy) desired by the grammarian. Such one-sided description, however, would include no interesting information about the language described.

Now suppose (again, for argument's sake only) that the grammarian is interested in the syntactic description only, ignoring completely the semantic description. He will certainly wish to differentiate clearly between different variables, especially in those cases in which values of different variables take different formal characteristics in formations realizing the B.P.s, e.g., when from the point of view of sequential order certain values occupy specific

positions in certain formations, when different values take different cases or different prepositions, when certain values group together into immediate constituents, etc. But for this purpose it is sufficient to use different arbitrarily chosen labels such as 'x', 'y', 'z', etc. for different variables, providing the same labels are applied to variables in different B.P.s of which the values have the same formal characteristics in formations (e.g. both 'kiss' and 'kill' will have 'x,y' as their variables, since 'He killed her' and 'She was killed by him' are formally similar to 'He kissed her' and 'She was kissed by him', but 'kiss' will have, in addition, the variable 'z', whereas 'kill' will have the additional variable 'u', since there is no construction with 'kill' corresponding to 'He kissed her on her forehead', and there is no construction with 'kiss' corresponding to 'He killed her with a sword'.

Now, suppose the grammarian is interested in both the syntactic and the semantic description, (which is furthermore, the only possibility to be taken seriously.) His choice of labels for the variables will have to reflect the best compromise between the empirically-motivated requirements of the semantic description and those of the syntactic one. If he were to overemphasize the delicacy of the semantic representation, this might lead him to use different labels for the first and second coordinate of 'kiss' and 'kill', and thus to obscure the fact that syntactically the latter are very similar. If he overplays the powerfulness of the semantic description this may cause him to use the same labels for the variables of different roots, even when the

values of these variables have different formal manifestations. E.g. He would use 'a,g' both for C.I.H. ' n- }-k ' 'kiss' and ' r-b-c ' 'hit' despite the fact that there is no sentence '\* jo'sef hir'bic et ra'xel' 'Joseph hit Rachel' ('ra'xel' in the former should be preceded by the preposition 'le'), and no

'\* ra'xel hurb'ca aljdei jo'sef', corresponding  
 Rachel was hit by Joseph  
 to ' ra'xel nu } 'ka al'jdei jo'sef'  
 Rachel was kissed by Joseph

On the other hand, if he is more attuned to the syntactic description than to the semantic one, he will be tempted to use the same labels for variables of different roots where these have similar formal manifestations, even in cases where the labels are not true to the semantic facts. E.g. He will use 'a,g' both for 'kill' and for 'hear', since 'John kills the spider' and 'John hears the music' are formally similar, despite the fact that 'John hears the music' does not imply 'John performs an action on the music'.<sup>15</sup>

In deciding on the labels for the variables, one has to take account of the fact, that many languages tend to set apart a certain specific set of intensional features of verbs by providing the features of this particular set, and just these features of all other intensional features of verbs, with special explicit markers, such as case-endings, prepositions or word-order. The interesting thing about this fact, is that many different languages single out a very similar set for that purpose and that languages fall into a small number of broad types according to the nature of the markers manifesting the intensional features of the set: case-

languages, preposition-languages etc. (with a good deal of overlapping). That is not to say, that there is no way of expressing, or marking on the surface, the presence of intensional features not belonging to this particular set, just that the latter are realized by untypical means. E.g. English, which can perhaps be characterised as a preposition-language (though it makes a restricted use of cases as well), does not distinguish by means of prepositions between "affectum" (i.e. the object denotes a thing which comes into being by the action designated by the verb) and "effectum"; 'John hit the boy' vs. 'John built the house' (Cf. Fillmore 1968a: 4). However, the distinction can be brought out by other means. For instance, compare the following two sentences: 'The house has been built since two months ago'; 'The boy has been hit since two months ago'. On the other hand, English uses prepositions to distinguish between "the giver" and "the recipient" as in 'John sold the book to Mary'; 'Mary bought the book from John'. It should be stressed, that both the distinction affectum vs. effectum and giver vs. recipient reflect intensional features of verbs, as is readily verified by the following implications: 'If x build y at time, T, then y come to being at T'. 'If x sell y to z then x give y to z'.

Following Fillmore 1968a and 1968b I shall use here the term "cases" for those intensional features of verbs which belong to the above-mentioned restricted class. However, my interpretation of the term is different from Fillmore's in several important respects. For Fillmore,

the "cases" do not fall at all under the general category of intensional properties of predicates, but constitute a separate, exclusive class. In order to define this class Fillmore introduces what he calls "a new order of concepts" (1968b:381). Without these new concepts - he insists - it is impossible to account for such facts as the ambiguity of 'x break y', 'x touch y' etc., where 'x' can be identified either as the agent or as the instrument of the breaking, touching etc. The predicate calculus lacks the conceptual machinery for this purpose. 'One could of course' - adds Fillmore - 'ascribe the ambiguity to the verb itself ... But that is to accept defeat' (same page).

I fail to see why attributing the ambiguity to the predicate - which would be intuitively correct and, furthermore in full agreement with Predicate Calculus concepts - should be labelled "defeat", while inventing "a new order of concepts" - be described as a better way out. Furthermore, the allegedly "new" concepts are not really new; they are just different names for intensional features of a certain class. This class, as explained above, is defined by grammatical, "surface" criteria, not by semantic ones. Stating that the first coordinate of a relation defined, say, by the predicator 'break' can play either the role of an agent or the role of an instrument is equivalent to stating that the intension of 'break' includes both the intensional feature 'agentive' and the intensional feature 'instrumental', or that 'x,y [break]' necessarily implies both 'x,y [perform an action on]<sub>z</sub>' and 'z [instrument]'. .

For Fillmore the case notions are not just a "new order of concepts". They are "a set of universal, presumably innate, concepts, which identify certain types of judgements human beings are capable of making about the events that are going on around them" (1968 a: 24). Granted the views expressed above, it is easy to see that in any universal language system (a "logical" language) the "cases" will be indistinguishable from all other primitive predicators (minimal semantic features). One, then, falls back on the question of the existence of a universal, language-neutral set of primitive concepts.

The term "case" has been adopted here mainly because it is useful on the practical level. It points out a widespread phenomenon of a high degree of correspondence between certain specific semantic entities and certain specific morphological entities. It enables one to use traditional terms such as Locative, Instrumental etc., where they are intuitively applicable, and so forth. It should be kept in mind, that no non-trivial labels for the variables can bridge completely the gap between form and meaning. Even the best list of case labels will gloss over many semantic distinctions or split semantic identities.<sup>16</sup>

#### 8. Optional elements joining the B.P.s

The system presented above constitutes only the obligatory component of basic syntactic structures: The variables are presupposed by each predicator, the range of the variables is determined by the general principle that

no expressions are included in such a range but names or B.P.s, and the range is further delimited by the predicator and its meaning. The relationships between every B.P. and its instantiations are determined by U.I., which is a general rule. Lexical-grammatical categories such as Aktionsart are presupposed by the stem-lexeme (cf. p. 35 ).

But basic syntactic structures may include also some optional parts. These are, for instance, grammatical categories such as tense, aspect and mood (cf. note 2), adverbial expressions which combine with the whole B.P. such as certain time or place adverbials, adverbial expressions joining B.P.s which substitute a variable, various adjuncts of names or B.P.s in any of the variables' range in subordinate endocentric constructions, etc.<sup>17</sup> It will be recalled, that on the "deep" level there is no distinction between adjectives, adverbs etc. On this level, all the optional elements, except grammatical categories, are B.P.s. A linguistic theory has to account for the recursive character of most rules introducing such elements, and therefore for the fact that the number of basic structures is potentially infinite.

Since optional elements are outside the scope of the present thesis, I shall not present here anything like a detailed discussion of the problems involved in incorporating such elements into the grammar. I will only propose some tentative ideas, in a rather sketchy manner.

The number of B.P.s in any language is finite. It is equal to the number of predicators. The number of names is also limited.



The range of each variable of any B.P. includes, in principle, at most all names and all B.P.s of language L, but the actual number of names and B.P.s in the range of a variable is much smaller, since many are excluded by the predicator. This enables one to assign to each variable all the elements in its range in an exhaustive and unequivocal way.

Let us introduce at this point the term head. The set of heads under a variable V of a B.P. S in a description D of language L is the set of predicators and names occurring in all instantiations of S, obtained after U.I. has been applied to V. In any such instantiation one and only one predicator or name can be a head under V. Each head is, by definition, a value of V.

Notice that the set of heads is included in or equal to the set of names or predicators in L. In other words, these two sets are partly or totally co-extensive. However, they are not cointensive, since the set of names and predicators is defined by enumeration, whereas the set of heads is defined as above.

Once the number and identity of the heads in each variable's range has been determined, it is possible, the heads taken as a basis, to increase the number of expressions in each variable's range indefinitely, by means of two rules, which can in principle be applied over and over again indefinitely. The first rule has already been given: U.I. In case a certain particular head is a predicator, it is possible to apply U.I. to its B.P.

## Example A:

1. 'x [R]<sub>0</sub>'
2. 'y [S]<sub>1xo</sub> [R]<sub>0</sub>' (U.I. in 1)
3. 'x [T]<sub>2yxo</sub> [S]<sub>1xo</sub> [R]<sub>0</sub>' (U.I. in 2)
4. 'z [U]<sub>3xyxo</sub> [T]<sub>2yxo</sub> [S]<sub>1xo</sub> [R]<sub>0</sub>' (U.I. in 3)

and so on, indefinitely many times.

The term initial B.P. will be used for a B.P. such as 'x [R]<sub>0</sub>' above, that is a B.P. which has no subscript on the right side of it except '0'. The sense in which such B.P.s are said to be initial is that according to which they are, as it were, given in advance, and not derived by U.I. The subscript '0' can then be interpreted either as 'This B.P. is a value of a variable of no B.P.' or as 'This B.P. was obtained from no application of U.I.'. According to these interpretations the predicator '[R]<sub>0</sub>' in 'x [R]<sub>0</sub>' is a head (the initial head), since it is obtained by a zero application of U.I. to zero variable of a zero B.P.

The subscripts on the right side of names or B.P.s indicate the ordinal number of the application of U.I. by which the name or B.P. carrying the subscript was obtained, the variable x,y,z, etc. of which it is a value, the variable of which the B.P. containing x,y,z, etc. is a value and so on. For instance, in example A.4. the expression 'z [U]<sub>3xyxo</sub>' reads: "The B.P. 'z [U]' has been obtained by an application of U.I. - the third application after the initial B.P. - to the variable 'x' of a certain specific B.P. (For convenience's sake let us denote this latter B.P. by 'I'.) I is a value of the variable 'y' of

another specific B.P. (Let us denote it by 'II!'). As the order of the subscripts shows, I. could not have been obtained but by the second application of U.I.. II. is a value of the variable 'x' of another specific B.P. ('III'). II. was obtained by the first application of U.I."

A quick glance over the rest of 4. (namely '  $[T]_{2yx_0} [S]_{1x_0} [R]_0$  ') will disclose that I. is equal to 'x [T] ', II. to 'y [S] ' and III. to 'x [R] ', that is to the initial B.P. In fact the only thing required for this to be disclosed is a look at the numerical subscripts, since each of the latter indicates the ordinal number of application of U.I. by which each B.P. was obtained, information already known with respect to I., II. and III..

The other rule will be given presently. This rule, which I will call Expansion-Subordination (E.S.) will take care of the addition of most optional elements which join the head in an endocentric construction. The rule, stated generally, has the following form:

$$(X_{nv} \dots \dots \dots_0) \text{ E.S. } (y [R]_0) = X_{nv} \dots \dots \dots_{oy} [R]_v \dots \dots \dots_0$$

'X' denotes any expression consisting solely of names and/or predicates. The subscript 'n' is any figure indicating the ordinal number of application of U.I. to the initial B.P. which dominates 'X' (i.e. the initial B.P. of which an instantiation includes 'X'). The subscript 'v' indicates the variable of which 'X' is a value. The broken line '.....' stands for a series of variable-subscripts. The subscript 'zero' relates the last variable-subscript in the series to the initial B.P. (The expression 'z[U]<sub>3xyx<sub>0</sub></sub>'

in example A.4 can serve as illustration for one instance of the generalized expression ' $x_{nv} \dots o$ '). 'E.S.' is the (binary) operation sign. ' $y [R]_o$ ' is an initial B.P. The operation adds ' $y$ ' (the variable of ' $y [R]_o$ ') as a subscript immediately following ' $o$ ' and replaces the subscript ' $o$ ' in the initial B.P. by ' $v \dots o$ ', that is, by the original series of subscripts of ' $X$ ' (leaving out the numerical subscript ' $n$ ').

What the operation does, stated informally, is making ' $X$ ' a value of ' $y$ ' in ' $y [R]_o$ ', and the whole expression ' $x_{nv} \dots o y [R]$ ' a value of ' $v$ ' in an instantiation of the initial B.P. It expands ' $X$ ' by ' $y [R]$ ' and subordinates the latter, that is, turns it from an independent initial B.P. into a part of a value of the variable ' $v$ '.

If the initial B.P. to be introduced at the right hand side of E.S. includes more than one variable, all the variables must be instantiated before the operation is performed, except the variable of which the expression at the left hand side of E.S. is to become a value by the operation.

#### Example B:

The man<sub>1no</sub> E.S. John<sub>1ao</sub>, g [kill]<sub>o</sub> = John<sub>1a</sub>, the man<sub>1nog</sub> [kill]<sub>no</sub>.

(The output of the operation is the underlying structure of 'The men whom John kill(ed)').

Notice that after the operation had been performed the subscript ' $o$ ' has been obliterated from 'John<sub>1ao</sub>'. This is required in order to prevent 'John' from being mistaken for a value of a variable of the B.P.-instantiation which includes 'The man'.

It is clear from example B that 'the man' is a head under 'n' in the initial B.P. (i.e. an instantiated value of 'n', obtained by U.I.). At the same time 'the man' is a value of 'g' in 'The man<sub>1nog</sub>[kill]<sub>no</sub>'. However 'the man' is not a head under 'g', since it was not obtained by applying U.I. to 'y'. It is also clear from example B that the whole B.P.-instantiation 'John<sub>1a</sub>, the man<sub>1nog</sub>[kill]<sub>1o</sub>' is a value of the same variable of which 'The man' is a value, namely 'n' in the initial B.P., but that unlike 'the man' this instantiation is not a head under 'n'. (This is indicated by the fact that 'The man' but not 'kill' is immediately followed by a numerical subscript.)

E.S. can be used to expand the predicator of an initial B.P., e.g. the predicator of the initial B.P. 'x [walk]':

$$(x [\text{walk}]_o) \text{ E.S. } (y [\text{nice}]_o) = x [\text{walk}]_{oy} [\text{nice}]_o$$

underlying, e.g. 'He walk(s) nicely'. This is in no way a special, exceptional use of E.S.: The subscript 'o' in '[walk]<sub>o</sub>' means: "'walk' is a value of a zero variable" (cf. above). 'o' in [walk]<sub>o</sub> substitutes 'o' in 'y [nice]<sub>o</sub>', exactly in the same way as 'v....o' in X<sub>nv</sub>....o' substitutes 'o' in 'y [R]<sub>o</sub>' in the general statement of E.S.. 'o' is at the same time an instance of 'n', since besides its interpretation as "'walk' is a value of a zero variable" it has the interpretation "'walk' was obtained by a zero application of U.I." It is clear, then, that 'walk' is a head.

In the first application of E.S. the expression on the left hand side of the operator ('X') must be a head.

A head is identified by the fact that it is immediately followed by a numerical subscript, indicating the ordinal number of the application of U.I. through which the head in question was obtained. After E.S. has been applied to a head, it can be applied again to the result of the first application, and so on, indefinitely many times. Let us see this at work, using the following as an example:

- Example C.
1. 'The young lady is dancing.'
  2. 'The fat young lady is dancing.'
  3. 'The extremely fat young lady is dancing.'

The obligatory core of the B.P. underlying all three is 'n [dance]<sub>0</sub>' (tense, mood, aspect etc. are ignored).

The B.P. underlying 1. is generated by one application of U.I. and one application of E.S.:

i. 'The lady<sub>1no</sub> [dance]<sub>0</sub>

('The lady' is marked as a head by the subscript '1', indicating: "The first application of U.I.").

ii. (The lady<sub>1no</sub>) E.S. (x [young]<sub>0</sub>) = The lady<sub>1nox</sub> [young]<sub>no</sub>.

iii. 'The lady<sub>1nox</sub> [young]<sub>no</sub> [dance]<sub>0</sub>'.

iii. contains the following information:

- a. 'The lady' is a head under 'n' in the initial B.P.  
'n [dance]<sub>0</sub>' (it was obtained by the first application of U.I.).
- b. 'The lady' is a value of 'x' in 'x [young]', but not a head under 'x'.
- c. 'The lady [young]' is a value of 'n' in 'n [dance]', but not a head under 'n'.

It is important to distinguish between a structure

such as iii. on the one hand, and an initial B.P. which has been instantiated with another B.P. on the other hand. The latter is exemplified as follows:

- Example D.
1.  $n [ugly]_o$
  2.  $n [fat]_{1no} [ugly]_o$  (U.I. in 1.)
  3. The frog  $_{2nno} [fat]_{1n} [ugly]_o$  (U.I. in 2),

underlying such sentences as 'The fatness of the frog is ugly'. Here the predicator  $[fat]$  is the head under the first application of U.I.; 'the frog' is not an adjunct, but again a head, an instantiated value of '2n'. This is not the same as iii., where 'young' is an adjunct. iii. cannot be realized as \*'The youth of the lady is dancing.'

Semantically, the initial predicator designates a property if and only if it is a property of whatever is denoted by the head which was obtained by the first application of U.I. to the predicator's variable. Since E.S. never introduces new heads, an expression introduced by E.S. (such as 'x  $[young]$ ' in Example C.1.iii., can never be the designator of the thing or property on which the initial predicator is predicated.

The importance of this observation is yet clearer when sentences with more than one adjunct in a subordinative endocentric construction are concerned (e.g. Example C.2. above ('The fat young lady is dancing')). As will be demonstrated presently, in such sentences a phrase consisting of the head and an adjunct (e.g. 'The young lady') is made by E.S. a value of a B.P. representing a second adjunct (e.g. 'The young lady' becomes a value of the variable 'x' in the

B.P. 'x [fat] ', such that 'The fat young lady' becomes in some sense equivalent to 'The young lady is fat'.)

Now, there is some superficial similarity between a construction generated in this way and a construction generated by instantiating an initial B.P. with another instantiated B.P., through two applications of U.I. (e.g. 1. 'n [fat] o'; 2. n [young]<sub>1no</sub> [fat] o', (U.I. is a.); 3. 'The lady 2nno [young]<sub>1no</sub> [fat] o'.) However, a construction such as the latter is utterly different from the former. In the latter 'young' is a head after the first application of U.I. and 'The lady' is a head under the second application of U.I. In the former 'The lady' is a head under the first application of U.I. not to a variable of 'fat' but to a variable of a different initial predicator, and 'young' is not a head at all. The latter will yield the semantically unacceptable sentence 'The youth of the lady is fat', the former - the semantically acceptable sentence 'The young lady is fat'. In the latter 'fat' is not predicated of 'young', since 'young' is not a head.

It will be noticed that though the above observations do explain why second adjuncts such as 'fat' in our example are not predicated of first adjuncts, such as 'young' in our example, they fail to explain why 'fat' is predicated of the head 'the lady'. True, 'the lady' is a head, but it is not a head under 'x' in the B.P. 'x [fat] '.

In order to account for this we should introduce the rule that whenever an expression A, consisting of a head or a head and adjuncts (e.g. 'The young lady') is made by E.S. a value of a variable in a B.P. B (e.g. 'x [fat] ')



the predicator of B. ('fat' in our example) becomes predicated of the thing or property designated by the head in A. Let us see now how the underlying B.P.s for sentences 2 and 3 in Example C. are generated:

iv. (The lady<sub>1nox</sub> [young]<sub>no</sub>) E.S. (y [fat]<sub>o</sub>) =

The lady<sub>1nox</sub> [young]<sub>noy</sub> [fat]<sub>no</sub>

v. The lady<sub>1nox</sub> [young]<sub>noy</sub> [fat]<sub>no</sub> [dance]<sub>o</sub>

v. is the underlying B.P. of 2.

In order for the B.P. underlying 3. to be generated, a different procedure should be followed:

vi. (y [fat]<sub>o</sub>) E.S. (z [extreme]<sub>o</sub>) = y [fat]<sub>oz</sub> [extreme]<sub>o</sub>

Here E.S. operates on two initial B.P.s. 'y [fat]' becomes a value of the variable 'z' of the B.P. 'z [extreme]<sub>o</sub>'. 'fat' is a head, since it was obtained by a zero application of U.I. Therefore, according to the rule stated above, '[extreme]' becomes predicated of the property of fatness, denoted by 'fat'. The fact that 'y [fat]' had been an initial B.P. before it was made by E.S. a value of the variable 'z' in 'z [extreme]', is marked by '[fat]' being immediately followed by the subscript 'o' in the expression 'y [fat]<sub>oz</sub> [extreme]<sub>o</sub>'. Now, 'y [fat]<sub>oz</sub> [extreme]<sub>o</sub>' is an initial B.P. (with the variable 'z' "filled" by 'y [fat]', therefore it is qualified for entering the right hand side of the operation sign E.S.:

vii. (The lady<sub>1nox</sub> [young]<sub>no</sub>) E.S. (y [fat]<sub>oz</sub> [extreme]<sub>o</sub>)  
= The lady<sub>1nox</sub> [young]<sub>noy</sub> [fat]<sub>oz</sub> [extreme]<sub>no</sub>

viii. The lady <sub>lno</sub> <sup>1</sup>[young]<sub>y</sub> <sup>2</sup>[fat]<sub>oz</sub> [extreme]<sub>no</sub> [dance]<sub>o</sub>.

In configurations such as viii. one can with no difficulty find out which variable in each series of subscripts belongs with what predicator. E.g. one can easily decide that the variable-subscript 'y', following 'young' is the variable of '[fat]' in the B.P. 'y [fat]' (and therefore that '[young]' is a value of 'y'), since 'y' is immediately followed by '[fat]'. However, in certain formations derived from such configurations there is no automatic way of discovering this, since the variable subscript is not immediately followed by its predicator. Therefore it would be advisable to mark the variable subscripts and their corresponding predicator, in such a way that each variable-subscript and the predicator with which it belongs be assigned the same marker. The convention we will adopt here is as follows: The adjunct-predicator introduced by the first application of E.S. will be marked by '1' on top of it. The same figure will immediately follow the variable-subscript preceding the predicator in question. The adjunct-predicator introduced by the second application of E.S. will be marked by '2' and so on. Accordingly, viii, will be rewritten.

viii. 'The lady <sub>lno</sub> <sup>1</sup>[young]<sub>y</sub> <sup>2</sup>[fat]<sub>oz</sub> [extreme]<sub>no</sub> [dance]<sub>o</sub>'.

The predicator '[dance]' is not marked in this way since it is the initial predicator. The fact that 'n' is the variable belonging with it is marked by the series of subscripts 'lno...' following 'The Lady'. The predicator '[extreme]' and its variable subscript 'z' also did not

receive this mark, since they are the only predicator and variable-subscript left unmarked, therefore it is obvious that they belong together (the subscript 'n' following '[extreme]' was ignored, since the fact that it is followed by 'o' indicates that 'n' is a variable of the initial B.P. and that 'y [fat] <sub>oz</sub> [extreme]' is an adjunct introduced by the last application of E.S.).

Notice that the fact that the configuration 'y [fat] <sub>oz</sub> [extreme]' was generated by E.S. before it was introduced by E.S. as an adjunct to 'the lady <sub>inox</sub> [young]' is clearly marked in viii. Its mark is the fact that '[fat]' is immediately followed by 'oz', which shows that 'y [fat]', when introduced at the left hand side of the operation sign E.S. was not an adjunct to 'the lady', but an initial B.P.

#### 1.6.9. Forming the converse of a relation.

The following general rule applies to any relation specified by a B.P.: For any relation '[R]' there is an operation with the help of which a new relation is formed, called the c o n v e r s e of '[R]', denoted by '[ $\check{R}$ ]'. The relation '[ $\check{R}$ ]' holds between x and y, respectively, if and only if '[R]' holds between 'y' and 'x'. In other words 'x,y [ $\check{R}$ ]' is equivalent to 'y,x [R]'.  
 $\check{z}$

Consider the B.P. 'x,y [ $\check{R}$ ]'. As suggested in note 9 this B.P. is the relative product of two relations 'x,y [T]' and 'y,z [S]'. According to the above general rule it implies both y,x [ $\check{T}$ ] and z,y [ $\check{S}$ ]. The latter derived B.P.s do not necessarily have actual manifestations

in surface formations in any language. Whether a certain converse of a certain relation expressed by a B.P. in the description D of language L is actually manifested in language L is a purely empirical question, which cannot be decided a priori.

Examples: Passive sentences are derived from the converse of B.P.s underlying active sentences: 'a, g, [take] ' is equivalent to 'g, a [take] ', instantiated, for example, as 'John, the book [take] ', which is equivalent to 'The book, John [take] ' and realized as 'John take the book'. The latter realization is equivalent to 'The book be taken by John' (Tense and other auxiliaries are ignored in all the examples given here.)

Another example: From 'a, g [dissolve] ', underlying, for instance, 'The scientist dissolve the metal in the acid' or 'The scientist have the metal dissolved in the acid' the double converse is 'g, a [dissolve] ' underlying 'The acid have the metal dissolved in it by the scientist' can be derived. The other two possibilities are 'g, a [dissolve] ', underlying 'The metal be dissolved in the acid by the scientist' and 'a, g [dissolve] ', underlying 'The scientist have the acid dissolve the metal in it'. 'a, g [dissolve] ' can be described as the relative product of two relations, 'a, g [S] ' and 'g, in [T] '. 'S' and 'T' stand for expressions in English or in a special metalanguage. For 'S' we may choose, for instance, the English expression 'make liquid' and for 'T' - 'be decomposed by immersing in'.

The double-converse 'g, a [dissolve] ' is then the

relative product of 'in, g [T]' and 'g, a [S]' (where '[T]' stands for '[be decomposed by immersing in]' = '[have ... decomposed by immersing ... in itself]' and '[S]' stands for '[make liquid]' = '[be made liquid by]' ).

The remaining two configurations ('g, a [dissolve]' and 'a, g<sup>in</sup> [dissolve]') are radically different from the two discussed above: Though the relations [S], [S̃], [T] and [T̃] are expressed in these configurations too, none of them can be described as the relative product of two of these four relations. 'g, a [dissolve]' consists of two relations, 'g, a [S̃]' and 'g, in [T]'. It is not the relative product of '[S̃]' and '[T]', since the second coordinate of [S̃] is not identical with the first coordinate of [T], nor is the second coordinate of [T] identical with the first coordinate of [S̃]. On the other hand, the first coordinate of '[T]' is identical with the first coordinate of '[S̃]'. a, g<sup>in</sup> [dissolve] is the mirror image of 'g, a [dissolve]'. It is the product (though not the relative product) of two relations: 'a, g [S]', and 'in, g [T̃]', of which the second coordinates are identical; but the second coordinate of no one of them is identical with the first coordinate of the other.

Configurations such as 'g, a [dissolve]' and 'a, g<sup>in</sup> [dissolve]' (non-relative-products) are distinguished by the fact that one and only one of the two relations expressed by them is the converse of the original relation.

# 10. Formation rules.

B.P.s (or rather classes, or types of B.P.S, (cf.1.6.12) are realized by actual formations (surface structures). The formations are derived from the B.P.-types by a set of formation rules<sup>18</sup> which introduce such grammatical features as sequential order,<sup>19</sup> obligatory empty morphs ("dummy" morphs), morphs representing grammatical categories such as Aktionsart etc. If a B.P.-type or any element in it has two or more alternative realizations the formation rules specify the environments of each realization (unless the distribution of the realizations is free).

Since formation rules play hardly any role in this thesis, there is no need to go further into this matter here.

Some questions concerning formation rules will be discussed in note 21.

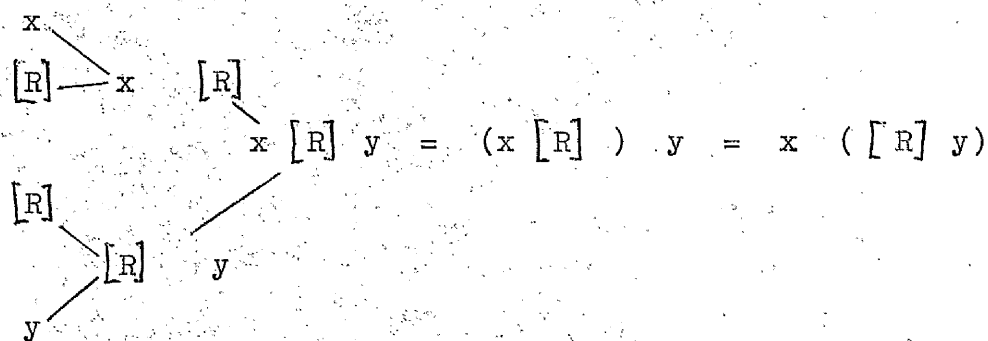
# 11. Constituent structure of B.P.s and formations.

Consider the following conflated B.P.s:

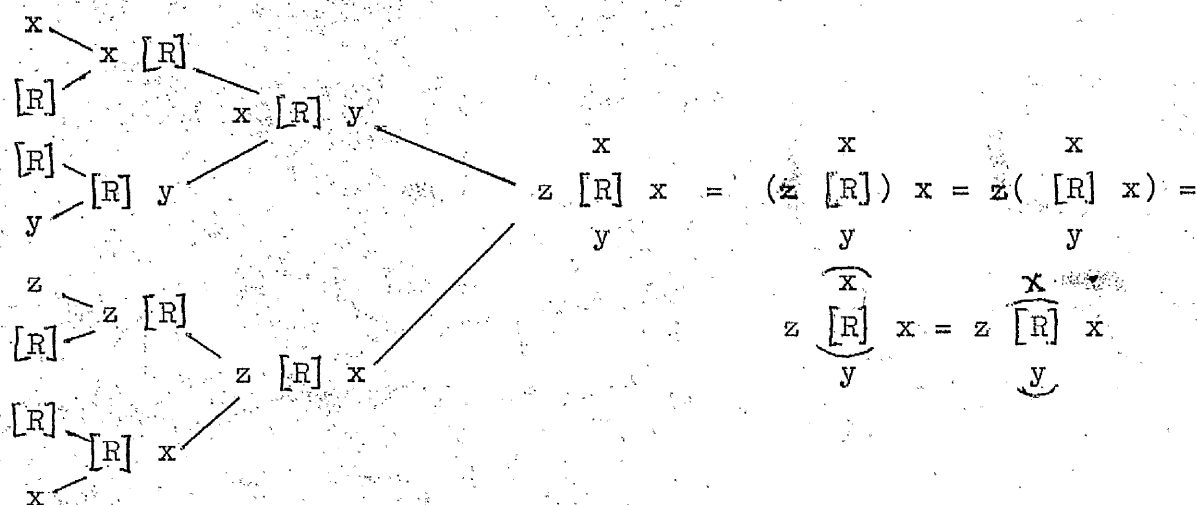
'  $\{z\} \underset{y}{x} [R]$  '. The variables group into the ordered pairs 'x,y' and 'z,x' merely by virtue of the fact that the predicator imposes this structure on them. The members of each pair of variables may be said to be related to each other not directly but through the predicator. Thus 'x' is directly related to a feature ' $\alpha$ ', implied by the predicator and ' $\alpha$ ' is directly related to 'y'. 'z' is directly related to a feature ' $\beta$ ' implied by the predicator and ' $\beta$ ' is directly related to 'x', (the predicator is the relative product of ' $\alpha$ ' and ' $\beta$ ').

The immediate constituents of the relation ' $x, y [R]$ ' are then ' $x$ ', ' $[R]$ ', ' $x [R]$ ', ' $[R]$ ', ' $y$ '; ' $[R]y$ ' and ' $x [R] y$ ' = ' $(x [R]) y$ ' = ' $x ([R] y)$ '. (the double cutting resulting from this principle of associativity should not be interpreted as constructional ambiguity.)

This can be presented visually in the diagram



Such a diagram is however redundant, since it does not add any information to what is already included in the formula ' $x, y [R]$ '.<sup>20</sup> Since ' $x, y [R]$ ' is properly included in ' $z, x [R]$ ', the immediate constituent analysis of the latter includes that of the former. The immediate constituents of ' $z, x [R]$ ' are:



Notice that since 'z' and 'y' are not the coordinates of the same relation, 'z [R] ' and ' [R] y' cannot be immediate constituents. They are related to each other indirectly, through the whole B.P., in other words, through the relative product of the two relations specified by the B.P. (cf. the example below and the discussion following it).

Now, in any formation which realizes an instantiation of the above B.P., the predicator and the values of the variables preserve this constituent structure.

Let us illustrate this by an example: The underlying B.P. and instantiation of the sentence 'The throwing of the stones into the river by the children went on' is

Example E: 1. 'n [go on] o'

2.  $\begin{matrix} n \\ i1 \end{matrix} [throw]_{1no} [go on]_o$  (U.I. in 1).

3. The children<sub>2ano</sub> the stones<sub>2nno</sub> [throw]<sub>1no</sub> the river<sub>2ilno</sub>  
[go on]<sub>o</sub> (U.I. in 2).

(Categories such as tense, gender, number etc. are ignored or left undiscussed here).

By a series of formation rules, the following formation is obtained. (The terms are manipulated by the formation rules together with their subscripts):

Example F:

'The throwing<sub>1no</sub> of the stones<sub>2nno</sub> into the river<sub>2ilno</sub>  
by the children<sub>2ano</sub> went on<sub>o</sub>'<sub>2l</sub>

The latter formation exactly reflects the constituent structure of the terminal instantiation. What the formation fails to exhibit is the structure imposed by the special



arrangement of the variables in the B.P. in Example E.2 (namely 'a, n'). This, however, does not pose a great practical difficulty since the structure can be deduced, at least in most cases: Many restrictions are imposed on the variables with respect to their freedom to pair off as coordinates of relations. For instance 'a' and 'n' will nearly always pair off with 'g', almost never with any other variable. 'b' will pair off with 'bt' and the latter with 'by' etc. The arrangement of the variables in the B.P. will be deducible, given the formation with the subscripts and a set of rules listing these restrictions. In our formation above the arrangement 'a, n' will be deducible, given the general rule that 'a' usually pairs off with 'n' or 'g' as second coordinate unless the relation is the converse of '[R]', in which case 'n' or 'g' is the first coordinate (a predicator '[R̃]', representing the converse of '[R]' should in each formation be marked for the fact that it is the converse of a relation).

The immediate constituents in example F will be:

First out: (go on<sub>0</sub>) ( All the rest ).

Second out: On this level, there is a multiple choice of cuttings. (This is not to be confused with constructional ambiguity). The reason for this is the fact that all the terms on this level are values of a single predicator (' throw ') and all were obtained by the same order of application of U.I. (as is indicated by the fact that all but the predicator ' throw ' itself carry the same numerical subscript, namely '2'. Now, since all relations "go through" the predicator and the principle of associativity

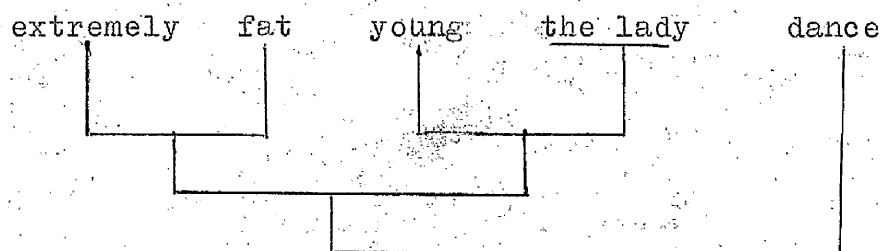
('x [R] y' = '(x [R] )y' = 'x( [R] y)' etc.) applies, all possible cuttings on this level will be correct, except:

i) Cuttings which will yield pairs of constituents of which 'The throwing<sub>1no</sub>' is not a member. The following two pairs, for instance, are excluded: '((of the stones<sub>2nno</sub>)(into the river<sub>2il no</sub>))' and '((into the river<sub>2il no</sub>)(by the children<sub>2ano</sub>)).

ii) The constituent '((the throwing<sub>1no</sub>)(by the children<sub>2ano</sub>)(into the river<sub>2il no</sub>)' - since 'a' and 'il' are not directly related as first and second coordinate of '[throw] 1no' in the instantiation 'a,n<sub>il</sub>[throw] 1no'.

The same principles of immediate constituent analysis apply to optional elements joining the B.P. and present in formations, since the application of E.S. by which such elements are introduced, has the effect of turning a term in the original B.P. into a value of a variable in the adjunct B.P.

Let us illustrate this by an example: The B.P. instantiation no. viii. in Example C. is the underlying configuration of the formation 'The<sub>1nox</sub><sup>1</sup> extremely<sub>no</sub><sup>2</sup> fat<sub>oz</sub><sup>1</sup> young<sub>y</sub><sup>2</sup> lady<sub>1nox</sub><sup>1</sup> dance<sub>o</sub>' (since 'the' is separated from 'lady' the series of subscripts '1nox<sup>1</sup>', was attached to each of these two expressions separately.) The immediate constituent analysis of the formation is given by the subscripts and numbers accompanying the terms. The analysis is presented in the following diagram:



The interpretation of the subscripts and numbers which yields this analysis is as follows: First 'dance' is separated from all the rest, since it is the initial predicator. 'The lady' pairs off with 'young' since the former is a value of the variable 'x' of the predicator 'young'. 'fat' pairs off with 'extremely' since the former is a value of the variable 'z' of the predicator 'extreme'. As 'fat' was an initial B.P. at the time it was made by E.S. a value of 'z' in 'z [extreme]' (as is marked by 'fat' being immediately followed by 'o'), it cannot be regarded as an independent constituent with regard to any part of the formation but 'extremely<sub>no</sub>'. 'Extremely fat' pairs off with 'young the lady' since 'young', (having "already" been an adjunct for 'the lady', is a value of the variable 'y' of the variable 'z' of the predicator 'fat')(the latter having "already" been a head with 'extreme' as an adjunct).<sup>22</sup>

## 12. B.P. Types and sub-types.

Most formation rules apply not to a single B.P. but to classes of B.P.s with the same or similar form. A class of B.P.s with the same form, or, as it will be called, a B.P.-type, may be viewed as a B.P.-like expression in which the place of the predicator is occupied by a variable, whose values are all the predicators that can be substituted in this place, with individual B.P.s as the result. Thus the B.P.-type to which belong, for instance the B.P.s 'x,y: x,y [R<sub>1</sub>]', 'x,y: x,y [R<sub>2</sub>]' ..... 'x,y: x,y [R<sub>n</sub>]' will have the form 'R: x,y: x,y [R] )', which reads: For any

arbitrary predicator '  $[R]$  ' (within a certain predetermined range) '  $x, y: x, y [R]$  ' is a B.P. U.I. can be applied to '  $[R]$  ' in the same manner as to any other variable.

Some formation rules apply to all the B.P.s in a B.P. type. Some others - to specific subtypes (specific subclasses of predicators). Rules of the latter kind presuppose a classification of '  $[R]$  ' into subtypes (  $[R_i]$  ,  $[R_{ii}]$  .....  $[R_n] \subset [R]$  '. Then the rules apply to '  $R_i: (x, y: x, y [R_i])$  ', '  $R_{ii}: (x, y: x, y [R_{ii}])$  ' ..... '  $R_n: (x, y: x, y [R_n])$  ', etc.

The values of variables such as '  $x, y \dots$  ' are usually B.P.-types rather than individual B.P.s. Some B.P.s '  $R: (x: x [R])$  ', then, will yield, after application of U.I. to '  $x$  ', '  $R: ((S: (a, g [S]_{1x0}) [R]_0))$  '.

Now the I.C. analysis of the B.P., and some formation rules applying to it, is completely indifferent as to the question whether U.I. has or has not been applied to '  $[R]$  ' and '  $[S]$  ', and if it has, in what order. The main bearings of this question is on the semantic interpretation. A B.P. such as the above cannot be interpreted before U.I. has been applied both to '  $[R]$  ' and to '  $[S]$  ' simultaneously (and, by implication, before U.I. has been applied to '  $a$  ', '  $g$  '). Suppose one of the values of '  $[R]$  ' is the predicator 'instantaneous' and one of the values of '  $[S]$  ' is the predicator 'snatch'. The above B.P. has then the instantiation '  $a, g [snatch]_{1x0} [instantaneous]_0$  '. U.I. can then be applied to '  $a$  ' and '  $g$  ', yielding, for instance 'John' and 'the cake', respectively. Among the sentences derived from these instantiations one will find 'John snatch(ed) the cake instantaneously' and 'the snatching of the cake by John (was)

instantaneous'. Now suppose the instantiation  $(S: (John_{2axo}$   
the cake  $_{2gx0} [S]_{1xo}) [instantaneous]_0$ ', where U.I. has been  
applied to ' $[R]$ ' but not to ' $[S]$ ' be submitted for semantic  
interpretations. This would make possible the interpretation  
'The action designated by any of the predicates in the  
range of ' $[S]$ ' (is) instantaneous', which is clearly  
wrong, since the range of ' $[S]$ ' would include such pre-  
dicators as 'bake', 'prepare' etc., to which the predicate  
'Instantaneous' cannot be applied.

### 13. Rules applying to individual B.P.s

There are rules which apply to individual B.P.s  
only. In most cases of this sort the B.P. in question is  
exceptional not in the sense that certain formation rules  
apply to it only and to no other B.P. in the description,  
but rather in the sense that certain rules apply to no B.P.  
in the type to which the B.P. in question belongs but do apply  
to B.P.s of other types.

Consider the rule  $R(x, y: x, y[R]) \rightarrow R(x, y: x[R]y)$   
(the rule introduces sequential order into the B.P.-type).  
The symbol ' $\wedge$ ' denotes the sequence). Let the B.P.  
' $x, y: x, y[R]$ ' be an individual value of ' $R(x, y: x, y[R])$ '.  
Now suppose the above rule does not apply to ' $x, y: x, y[R]$ '.  
Instead, the rule ' $x, y: x, y[R] \rightarrow x, y: x \wedge y[R]$ ' applies.  
Now, suppose there is a rule ' $S(l, m: l, m[S]) \rightarrow S, l, m:$   
 $l \wedge m[S]$ '. Then ' $x, y: x, y[R]$ ', which belongs to type  
' $[R]$ ' both from the viewpoint of its form and from the  
viewpoint of most formation rules applying to it, undergoes

a certain particular formation rule which does not apply to the rest of the B.P.s in type ' [R] ' but does apply to B.P.s of type ' [S] '.

It is perhaps advisable to mark the above fact explicitly by adding a special symbol to 'x,y:x,y [Rl] '. For instance we can add the symbol 'si' to the left hand side of ' [Rl] ', thus obtaining 'x,y: x,y <sup>si</sup>[Rl] ', where 'si' marks the fact that rule no. i for B.P.s of type ' [S] ' applies to 'x,y <sup>si</sup> [Rl] ' and that any rule applying to type ' [R] ' which is in conflict with 'si' is invalid.

#### 14. Notes.

1. The converse applies too, that is, every lexico-syntactic complete expression is a B.P..
2. Such lexical-grammatical categories are to be distinguished from purely grammatical categories such as tense and aspect (cf. 1.3.3.). The latter are not included in the predicator, but may in certain circumstances be superimposed on the whole B.P. without constituting an integral part of the latter. Grammatical categories lack most of the characteristics of lexical-grammatical categories of the predicator. Tense, for instance, is not presupposed by the stem lexeme and does not presuppose stems of a definite class (all roots which can serve as predicators can occur with any tense).

Since deictic categories such as tense and aspects do not constitute an integral part of the B.P., the question arises in what way they are to be introduced. No definitive answer will be attempted here (especially as

questions concerning tense and aspect are outside the scope of this thesis), but some of the difficulties involved will be pointed out.

It will be noted that this question involves not just tense, aspect and the like, but a much larger range of linguistic entities. What I have in mind is entities whose reference varies according to the speaker, the time and place of utterance, etc., e.g. the verbs 'come' and 'go', whose correct use depends on the position of the speaker at the time of speaking relatively to the hearer etc. (cf. Fillmore, 1966a), most pronouns, adverbials such as 'here', 'there', 'yesterday', 'tomorrow' and so on. These are what Bar Hillel (1954) calls 'Indexical Expressions'. According to him an expression of this kind is characterized by the fact that '... not all its tokens have the same reference...'. Therefore '... the abstraction from the pragmatic context which is precisely the step taken from descriptive pragmatics to descriptive semantics ...' cannot take place when an indexical expression is concerned. 'I propose,' proceeds Bar Hillel, 'not to assign reference and truth to sentence-token ... such as 'I am hungry' ... but only to a sentence-token-in-a-certain-context, i.e. to the ordered pair consisting of the sentence-token and its ... pragmatic ... context' (p.365). In order for a sentence such as 'I am hungry' to be assigned a unique reference, it must, according to Bar Hillel, be first replaced by a sentence from which all the indexical elements have been eliminated and of which the pragmatic context is fully and precisely stated. E.g.: 'Tom Brown is hungry on January 1st, 1951, at nine o'clock in the

morning' (Even this, according to Bar Hillel is not sufficiently precise).

Now, one would suppose (as indeed has been supposed by most transformationalists), that basic syntactic structures should be uniquely interpretable on the semantic level. If, for instance, 'A is a widow' logically-  
implied both 'A is a woman who lost her husband' and 'A is not a woman who lost her husband', one would come to the conclusion that 'A is a widow' does not represent a single basic sentence in English. But, as Bar Hillel pointed out, no indexical sentence is uniquely interpretable on the semantic level. For example, 'Napoleon died' does not, strictly speaking, logically imply 'Napoleon ceased to live', because the latter may have been uttered before Napoleon died and the former after he died. In other words, the latter may be synthetically false and the former synthetically true. In order for 'Napoleon died' to be uniquely interpretable on the semantic level it is to be replaced by a non-indexical expression giving the exact date and time of Napoleon's death, e.g. 'Napoleon died, 5.49 p.m., May 5, 1821' (the latter does logically imply 'Napoleon cease to live, 5.49 p.m., May 5, 1821'). Are then all basic syntactic structures underlying sentences with tense and other indexical elements to include expressions such as '5.49 p.m., May 5, 1821'? Obviously not, otherwise any two sentence-tokens, if uttered in two distinct pragmatic contexts, would be assigned to two different basic structures. This would be ludicrous of course. Furthermore, one would expect the grammar to



include realization rules, turning basic structures into actual sentences. Is it possible at all to give realization rules which would turn 'Napoleon die, 5.49 p.m. May 5, 1821' into 'Napoleon died'?

Another possible suggestion with regard to the question how indexical elements are to be introduced into basic syntactic structures, might be the following: Since the function of the past-historic tense is to indicate that whatever is related by the sentence in question (or, in most cases, by the main clause, Cf. above) had taken place before the sentence was uttered by the speaker, the basic structures should include information to that effect, E.g. the basic structure of 'Napoleon died' would take roughly the following form: "' Napoleon die' before I (or 'the one who uttered this token') uttered this token." However, this would again beg the question, since the above expression includes at least two indexical expressions ('I' or 'this', and past tense).

3. Notice, that in some cases the property designated by the predicator is included in the meaning of a name or a predicator in the former's argument. E.g. the property of roundness is included in the meaning of the name 'The circle', which is a member of the range of 'x' in 'x [round]'. In these cases the predicator in question, and the name or predicator in its argument, constitute together a tautologous (analytic) proposition.

4. Chomsky 1964:41: "...Each major category has associated with it a "designated element" as a member. This designated element may actually be realized (e.g. 'it' for abstract nouns, 'some (one, thing)', or it may be abstract ("dummy element"). It is this designated representative of the category that must appear in the underlying strings for those transformations that do not preserve, in the transform, a specification of the actual terminal representative of the category in question. In other words, a transformation can delete an element only if this element is the designated representative of a category or if the structural condition that defines the transformation states that the deleted element is structurally identical to another element of the transformed string. A deleted element is therefore always recoverable." Chomsky's "designated representative of a category" seems to be an element that functions like an indefinite pronoun. In the framework of our notation such "designated representative" would be an unspecified value of a variable. E.G. instead of referring to a specific value of 's' (say 'Napoleon') in 's [die]' one may refer to an unspecified value 'n' under 's'. 'n' will function like an indefinite pronoun and will be the designated representative of 's'.

It will be noted, that deletion is permitted in other conditions besides those mentioned by Chomsky. The deletion of an uninstantiated variable, (i.e. a quantified variable to which U.I. has not been applied), for instance, has nothing to do with a designated representative

of a category, nor with an element that is structurally identical to another element, and yet its recoverability is guaranteed. E.G. In the B.P. - instantiation 'g: John, g [see] ' the variable 'g' together with its antecedent 'g:' (that is, the "universal quantifier" 'for any 'g' ', or 'for every 'g' ') can in some formations be deleted. However, these elements are recoverable, since they are present in the B.P.

In our example, the fact that 'g' has not been instantiated, imposes on the sentence the interpretation 'for anything which can be seen John can see it'.

It will be observed, however, that in certain cases of deletion the notational device proposed above will impose a wrong interpretation. E.G., the sentence 'John is very old, but he still can see' does not imply, it seems, that John can see anything which can be seen but that he can see some things. When such elements as the latter are concerned, the deleted elements will probably be not the variable and the universal quantifier, but the variable and the "existential quantifier", (which will be represented by the symbol ' $\exists$ '). Thus: ' $\exists$ g: John, g [see] ' will read: 'for at least one thing g, John (can) see g'. The existential quantifier should not be confused with a designated representative of a category. The latter consists in each case of exactly one value of a variable (though an unspecified one). The former - with at least one

5. Our notion of 'Predicator' bears some similarity to, but is not identical with, the notion of Verb in Categorical

Grammar. In the latter theory verbs are defined as "elements which combine with nouns to form sentences" (Ajdukiewicz 1935; Bar Hillel 1964: 62 ff; Lyons 1968: 227). Sentences and nouns in categorial grammars are taken as fundamental, or primitive, grammatical categories. Verbs are derived. In our terminology B.P. is a fundamental category. Each Predicator is an integral part of a B.P., therefore fundamental as well. Names are derived.

The terms 'name' and 'predicator' are used by Lyons (1966: 213 ff.; 1968: 337 f) in a way which is somewhat similar to, but again not identical with the way they are used here. Like in categorial grammar, the definition of a name, according to Lyons, takes precedence over the definition of a predicator and other categories. The reason for this seems to lie in the fact that Lyons' definition of names and predicators is based on the traditional notional distinction between "particular terms" (names) and "universal terms" (predicators).

The distinction is derived, in Lyons' view, either from the Aristotelian doctrine of the categories of substance and properties, where substance is regarded as "essential" and properties (predicates) as "accidental", or from our "recognition in the perceptual world, of a number of discrete, temporally enduring "entities", the terms denoting which form the hard core of the class of nouns.

Our distinction of names and predicators also corresponds to the traditional notions of particular and

general terms. However, it rests neither on the Aristotelian doctrine, nor on any common-sense rationalism. It is based on modern Logic's insight, that every predicate expression determines a class (the extension of the predicate). The same class may be defined by a number of different predicate expressions, but all the classes determined by the same predicate-expressions are identical. According to this view, names, predicators and B.P.s can be regarded as formal objects, which do not require for their definition any referential or contextual-situational material (providing a clear distinction is made between expressions and things or properties designated by them).

The view that it would be desirable to eliminate - in so far as basic syntactic structures are concerned - the differentiation between certain categories which occur in the predicate position is shared by virtually all Neo-Transformationalists. They are at variance only with regard to the number of distinctions that should be eliminated. My notion of 'predicator' represents the extreme view, according to which all the distinctions between predicate-categories are eliminated. The question how these distinctions are restored by formation rules will be taken up briefly in note 21.

One has to distinguish between singular terms such as Hyde Park Corner on the one hand, and proper nouns, common nouns with determinants and pronouns on the other hand. The latter, but not the former, are 'indexical' (cf. note 3). The name 'John' in the sentence 'John is hungry' is no name at all (in other words, it has no interpretation) unless uttered with reference to a specific John at a specific place and time.

and it may be a different name, (that is, have a different interpretation) in each distinct token of the sentence. The name applies to 'the man', 'this', 'He' etc.

In the context of this thesis pronouns, proper names and common nouns with determiners will be taken as names, and the question how this is accounted for theoretically will be left open.

Most singular terms can sometimes be used as common nouns. E.G.: 'It was a different Hyde Park Corner that afternoon.' It is doubtful whether names in such use can be taken to be predicators, since, unlike other common nouns they do not subsume a class of names or B.P.s: One would not say, for instance '\* This place is a Hyde Park Corner' as one says: 'This place is a park'. Mass nouns can be classified both with names and with predicators. E.g. 'furniture' is a predicator in the sentence: 'The stuff in the other room is furniture' and a name in the sentence 'Furniture is an expensive commodity' (Cf. Quine 1964: 91 ff).

Lyons suggested to distinguish between first order (substantival) nominals, and second order (non-substantival) nominals (1968: 347 ff). The latter, but not the former, occur in copula sentences with time adverbial as the predicate: 'The demonstration was on Sunday' vs. \*'The dog was on Sunday'. Nouns such as '(a) talk' are second order nominals. It seems that all second order nominals are predicators (at least when they do not occur with definite determiners), but some first order nominals can be predicators as well.

6. The use of the term 'contradiction' here needs clarification. What is meant by it in this connection is not a factual (synthetic, extensional) contradiction, but a logical (analytic, intensional) contradiction. E.G. 'My son is as tall as the Eiffel Tower' is a false statement, but still an English one. But 'Every English ambiguity loves hard boiled eggs' will be ruled out as an English sentence even by many philosophers. Bazell (1962: 941) argued that the deviation in sentences of the latter kind 'is in a sense language-neutral, since the translation of a non-grammatical sentence into another language will also be a non-grammatical sentence'. ("Non-grammatical" is the term Bazell suggests to apply to such sentences).

There are, however, cases in which it is not so easy to determine whether the contradiction is due to logical nonsense or to factual incompatibility, e.g. 'The table is walking' in a situation in which a child plays the role of a table as a part of a game with his friends. Since it is the function of a table that is a part of the intension of 'table', not the material of which it is made, there seems to be no logical contradiction here, just factual incompatibility (it is odd for what is usually referred to as 'table' to walk). On the other hand one might argue that the intension of 'table' includes not just the function, but also the requirement that it be made of some inanimate stuff, and also that its tablehood be its chief function, not just a role that it assumes for a while.

7. Here Russell's theory of logical types is relevant. (Cf. Russell 1908; Whitehead and Russell 1910, introduction to 1st ed., Chap. 2). Type-incompatibility is essentially a semantic matter, but it is a feature so general that it can in effect be taken as a part of syntax.

8. The B.P. underlying the latter is 'x [famous] '. The predicator ' [famous] ' excludes from the range of 'x' all B.P.s, including 'y [beautiful] '. 'Beauty' is an nominalization of the latter B.P.. (This is verified by the fact that sentences such as 'Beauty is rare' are paraphrases or near paraphrases of e.g. 'For creatures or things to be beautiful is rare'. By the way, 'Beauty' in 'Beauty is rare' is not a realization of the uninstantiated B.P. 'y:y [Beautiful] '. If it was one, 'Beauty is rare' would be paraphrased 'For any creature or thing to be beautiful is rare' - which is not a correct paraphrase of 'Beauty is rare'. Notice that the predicator 'rare' can be eliminated from 'Beauty is rare'. This is done by paraphrasing the latter as 'Few creatures or things are beautiful'. Both 'rare' and the universal quantifier are replaced by 'few'. 'Few' itself may be regarded as a quantifier (Instead of 'for any y, y [beautiful] ' one has 'for a few y, y [Beautiful] '). In 'Beauty is rare', then, 'Beauty' is no longer the realization of 'y:y [beautiful] '. It becomes a realization of 'For a few y:y [beautiful] '.

The predicator 'famous' in the B.P. 'x [famous] ' admits only names to the range of its variable. The latter can be substituted by 'Venus', for instance: 'Venus (is) famous'.



Now let us examine what happens if one substitutes a B.P., say 'y [beauty]', for 'x' in 'x [famous]', and then substitutes a name, say 'Venus' for 'y' in 'y [beauty]'. The result will be the instantiation 'Venus [beauty] [famous]' underlying such sentences as 'Venus beauty is famous', 'The beauty of Venus is famous', 'It is famous that Venus is beautiful', 'Venus is famous for her beauty', etc. Though 'famous' excludes B.P.s from the range of its variable, it does not exclude certain instantiations of B.P.s. It is perhaps true to say, that from the viewpoint of the restrictions imposed by a first-type predicator on membership in its variables' range B.P.s function as first-type predicators, in that they cannot be substituted for certain of the initial predicator's variables, but some instantiations of B.P.s function as names, in that they can be substituted for certain of the initial predicator's variables.

Notice that optional adjuncts have no effect on type-restrictions. E.G. 'Natural beauty, that has not been artificially acquired, is rare', vs. 'Natural beauty, that has not been artificially acquired, is famous', but 'Venus' natural beauty, that has not been artificially acquired, is famous' is acceptable.

Some predicators designating a relation are first-type in relation to one of the variables and second type in relation to the other e.g., 'Sincerity frightens John'.

9. In fact '[sell]' is a triadic relation, i.e. a relation with three arguments, but it is possible to regard it also as an ordered set of two relations

'x,y [R] ' and 'y,z [S] ', where each of the symbols ' [R] ' and ' [S] ' represents one of a number of possible alternative predicate-expressions in English, or, for that matter, in an artificial language designed to be used as a meta-language for describing English. ' [R] ' may be interpreted, for instance, as ' Exchange for money ' and ' [S] ' as ' be obtained by, by paying to a price '. Notice, however, that ' [R] ' and ' [S] ' are not mutually exclusive with regards to their meaning. They necessarily share some meaning features (as is clearly seen from the interpretations given to them above). ' Sell ' itself may be viewed as primarily a relation between 'x' and 'z' and therefore as a relative product of ' [R] ' and ' [S] '. (There is a general rule in the calculus of relations, that the relative product of two relations ' [R] ' and ' [S] ' (denoted by ' [R / S] ') is a relation which holds between 'x' and 'z' if and only if there is 'y' such that both 'x,y [R] ' and 'y,z [S] ' are asserted.

As mentioned above, the two relations hold simultaneously. In other words 'y' must be identical to itself in both; not only in the pragmatic sense, as a man is identical to himself in two different places and times, but in the logical sense, i.e. identical in everything.

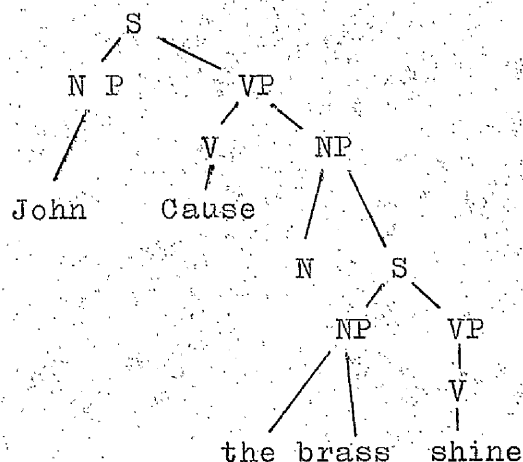
10. What looks like an alternative assumption is to regard the stem-lexeme in 'x [shine]' and 'y,x [shine]' as identical and to attribute the difference between the two to the different syntactic constructions into which

the stem lexemes 'shine' fits. In other words, to the difference between 'x [R]' and 'y, x [R]'. This latter assumption is in fact the commonly accepted one. It will be observed, however, that this is not really an alternative assumption, but just an implication of the former assumption. By stating that 'shine' in 'y, x [shine]' has a certain semantic (intensional) feature (namely, "active" or "causative") that 'shine' in 'x [shine]' lacks, in other words, by stating that 'shine' does not have the same meaning in both cases, one necessarily implies that in the former case 'shine' defines a class of things (an extension), of which the intensional feature in question is true (in other words, a class of "actors" or "causers"). One cannot attribute the difference between the two uses of 'shine' just to the different syntactic constructions, since the syntactic distinction presupposes the semantic one.

The semantic relation between 'x [shine]' and 'y, x [shine]' should not be viewed as essentially different from semantic relations such as between 'x [run]' and 'x [move]'. In both cases the meaning of the first expression is properly included within the meaning of the second expression. The difference lies just in the fact that in the latter case the extension 'x' of 'move' properly includes the extension 'x' of 'run', whereas in the former case the extension 'y', defined by the feature 'active', which is a part of the intension of the predicator 'shine' neither includes nor is included in the extension 'x' of the conditional. This is due to the fact that unlike

'x [move] ', 'y,x [shine]' expresses a relation.

Notice that the difference between 'x [shine] ' and 'y,x [shine]' is not of the same nature as the difference between, say, 'You sit' and 'John tells you to sit'. The latter does not involve any change in the meaning (intension) of 'sit'. It is a purely syntactic operation, in which a syntactic pattern is embedded within another syntactic pattern. The verb 'tell' is not a unique constant feature such as 'active' or 'causative', but a member of a class of verbs (which includes also 'ask', 'allow', 'urge' etc.). Nevertheless, constructions such as 'y,x [shine]' have often been described as a special case of embedding, as illustrated in the following tree diagram



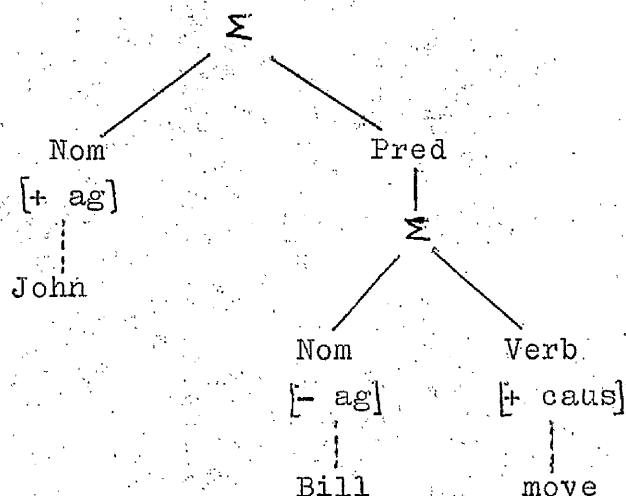
(Cf. for instance Lakoff 1965)+

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+Unfortunately I cannot provide a more exact reference; for this reference I am indebted to Dr. N.V. Smith.

The status of the verb 'cause' in this diagram is rather doubtful. In this particular instance it is not an ordinary verb like 'tell', 'expect' etc. (That it does not belong to the same class as these verbs, or, for that matter, to any other class of verbs, is verified by the fact that once it is replaced by any of these verbs the causative transformation fails to operate). It is a constant, unsubstitutable element, obligatorily present in the matrix clause. In short, it is more of a feature than of an actual verb.

The idea to treat the causative element as a feature of the verb has in fact been taken up by a number of writers, e.g. Lyons (1968: 380-388). The following tree diagram (taken from p. 385) illustrates Lyons' approach



This diagram represents (a) a set of phrase structure rules (b) rules associating with each nominal category one of the features + ag(entive) , -ag(entive) or  $\pm$  ag(entive) (c) A classification of one place (intransitive) verbs in the lexicon according to their potentiality of combination with nominals in terms of the following three-fold distinction: either agentive or non agentive, agentive

only, non-agentive only. (d) an ad-hoc device, attaching to the verb a feature "causative" when the one-place nucleus is embedded in the predicate of a transitive construction.

My proposal, which, it will be recalled, is based on notions borrowed from symbolic logic, is much simpler: A one place predicator such as 'x [move]' is modified and extended by way of semantic derivation, adding to it the intensional feature "caus" (I am not yet clear about the exact nature of the operation involved in this semantic derivation, though it seems to be a simple conjunction (' • ')), or in terms of the theory of sets, the logical product operator (' $\cap$  ')). That is about all. Neither phrase structure rules, nor rules introducing features are needed, since all the information conveyed by these rules is implicit in what has already been set forth above. Since every intensional feature presupposes a class (its extension), the addition of the intensional feature "causative" to the one-place predicator 'x [move]' automatically converts the latter into a two-place predicator 'y,x [move]', expressing a relation between a class of "causers" and a class of "caused". As what follows will show, a configuration such as 'y,x [move]' is a complete statement of a "deep" syntactic construction and its constituent structure. As for nominal features, these would be better construed as predicators, necessarily implied by the predicator under discussion, in other words, as part of the meaning of the latter. E.g. 'If x [shine]' then 'x [non-active]'. If 'y,x [shine]' then 'y [active]'.

11. The term 'Ergative languages' is used by some linguists to distinguish languages in which the subject of intransitive verbs and the object of transitive verbs have the same case (E.g. Basque, Eskimo, Tibetan and some Amerindian, Polynesian and Caucasian languages. For references Cf. Anderson: 1968: 9-11). Recently this term has been borrowed by a number of linguists (Fillmore 1966; Anderson 1968; Lyons 1968 and others) to characterize the relationship between the subject of intransitive verbs and the object of transitive verbs of a certain type in languages such as English, where this relationship is not overtly marked. The term has been applied to B.P.s of the sort discussed here, since they represent the same relationship. However, its use here is not identical to the way it has been used by any of the above-mentioned authors.

12. Bar Hillel (1967) argued, against Katz and Fodor and Steal, that dictionary definitions are not a convenient form for describing paraphrase relationships such as between 'precede' and 'follow', 'buy' and 'sell', etc. It would be more satisfactory to present such relationships as meaning rules, taking the form of tautologies such as are used in the logic of relations. The form of B.P.s in our description is exactly the one required for such meaning rules. (Cf. also Fillmore 1968).

14. The word 'closing' does not have here its ordinary English meaning. It is used as a meta-language cover-term for a certain class of English lexemes. However, its value lies in the fact that its meaning is sufficiently similar to that of the English word 'closing' to make the labels 'cl' and 'cd' self-explanatory.

In principle, the variable label will be taken from that term of the class in question whose meaning covers the widest ground. For instance, 'cl(ose)' rather than 'l(ock)' was chosen here since 'x is locked' implied 'x is closed', but not conversely.

Theoretically, it would be preferable, perhaps, not to rely on the similarity between the meaning of terms such as 'cl' and 'cd' and English words, but to define the meta-language terms by means of "meaning postulates" (the term is taken from Carnap 1956) within a restricted language system. This task lies outside the scope of this paper.

15. Lyons (1968: 350 f.) observes that "notional" terms such as 'actor' and 'goal' are harmless if one takes care to distinguish between the label of a category and the criteria for membership in it. The label may be notional while the criteria should be formal: "It suffices that the semantic, or 'notional', definition is applicable to the majority of two place verbs for the whole of this class of verbs to be called 'transitive'."

The question of the status of basic syntactic categories (subject, object, etc.) with relation to the (surface) syntactic structure on the one hand and the



semantic interpretation on the other hand was recently taken up by a number of writers. Lakoff and Ross, for instance observed (1967) that the categories subject and object have no uniquely determined semantic interpretation. They argue that 'such categories as "subject" and "object" need to be kept distinct in the surface structure by means of case, word order, et cetera, and in the semantic component they are distinct; they require no other level.' (The citation is from Dearmond 1968. Unfortunately I had no access to Lakoff and Ross's original paper.) It seems that Lakoff and Ross's verdict on this matter is unduly harsh, especially if taken as applying to the notion of syntactic categories in general. As mentioned above, there is a high degree of correspondence between the formal and the notional characteristics of syntactic "places" (our variables). If the grammar is to achieve a high degree of explanatory power, it is essential to assume such "places" as the common basis for both the syntactic and the semantic description (and to label them accordingly).

My views concerning the semantic and syntactic role of predicators and variables are in general agreement with some recent observations made by McCawley and Fillmore. McCawley's views are reported in the above-mentioned paper by Dearmond (unfortunately no reference is given): 'For example, the sentence ... 'The man killed the woman' contains a proposition ' $x_1$  killed  $x_2$ ' ... The contentive (roughly our 'predicator'. The term was coined by Bach) is a bundle of semantic features which receive the lexical shape 'kill' ... The semantic features identify the role

of the terms. Thus  $X_1$  is the agent of the contentive, and  $X_2$  is the patient; each term is to be identified by the semantic relationship that each has with the contentive....'.

16. The case-labels and the B.P.-types used in this thesis are listed and discussed with connection to the index of roots with their B.P.s (pp. 184- 188 ).
17. Coordinative constructions will receive a different treatment. In sentences such as 'Jack and Jill are married' 'Jack and Jill' is not a coordinative conjunction since 'Jack' and 'Jill' are the first and second coordinates of a symmetric relation (The B.P. will be 'n, n' [marry] ', where the two variables have the same function (as marked by the fact that the same variable-label is used for both) but different instantiated values in each instantiation (this is marked by the stroke to the right of one of the variables (cf. p. 268ff ). A sentence such as 'Jack and Jill went for a walk' is a conjunction of 'Jack went for a walk' and 'Jill went for a walk', i.e. of two different instantiations of the same B.P.
18. The term Formation Rules, rather than transformation rules, has been used, since these rules are not to be regarded as just mapping a p-marker into a different p-marker but as imposing a taxonomic form on B.P.s (Cf. note 19).
19. It would be wrong to assume that formations are the same kind of structures as B.P.s; that, for instance, the constituent structure of a formation is just the output of a series of operations performed on the con-

stituent structure of a B.P., with the effect of changing the sequential order of certain constituents, deleting some constituents etc. I argue that the constituent structure of a formation is identical with the constituent structure of its underlying B.P. - instantiation (Cf. p. 81 ff ) and that the sequential order of the constituents of a formation is a "new" feature, introduced by formation rules. The elements in a B.P. have no sequential order. They are ordered, but the concept of order involved is in principle different from the concept of sequential order. The order of the coordinates in the relation 'x,y [R]' has semantic implications. By exchanging 'x' and 'y' one derives a different, though related, relation ( [R̃] ), and this is true only in case [R] does not have the semantic property of being a symmetric relation. Sequential order has no semantic implications. It is purely taxonomic. The distinction between 'Give him the book' and 'Give the book to John' is not a semantic one.

20. In T.G., the subject phrase and the predicate phrase of a sentence never belong to the same constituent except 'S'. In my view the subject phrase and the predicator may be described as belonging to the same constituent, e.g. the constituents of 'John bounced the ball' are 'John (bounced the ball)', as well as '(John bounced) the ball'. The view that the latter analysis must be ruled out seems to be based on the assumption, that no transformation rules treat the subject phrase and the verb as a single unit, whereas many transformation rules treat the verb and its complements (e.g. its direct object) as a single unit.

However, there are many counter examples. Take for instance, the Colloquial Israeli Hebrew transformation

jo'sef hik'pic et ha ka'dur beale'gantijut

'Joseph bounced the ball elegantly'

(From the ergative B.P. 'a, n [k-f/p-c] ')

ha hakpa'ca )el jo'sef haj'ta ale'gantit

'The bouncing of Joseph was elegant' ,  
(making bounce)

where 'a' ('Joseph') and the predicator ' k-f/p-c ' ('bounce') act as a single constituent. Even if this is regarded as a case of deletion of the second coordinate (NP<sub>2</sub>), one cannot deny that the grammar must include a rule which manipulates the first coordinate (NP<sub>1</sub>) together with the predicator, or at least such rule is conceivable.

Lakoff argues (1968: 20 f) that instrumental adverbs are not part of the V.P they modify, since sentences such as 'Max slices salami with a knife, and Benny does so with a cleaver', where 'does so' stands for 'slices salami' are possible. However, Lakoff disregards the fact that sentences such as 'Max slices salami, with a knife and Benny does so too', where 'does so' stands for 'slices salami with a knife' are also possible. This confirms my view, that in a B.P. whose form is 'x,y [R] ', '[R]y ' is a constituent, but 'y [R] z' is a constituent too.

21. In fact the formation rules apply to the variables 'a', 'n' and 'il' before U.I., but since the list of heads under each variable is given in advance, each head (or head and adjunct if E.S. has been applied) can eventually be substituted for each variable in the formations generated by the rules.

The grammar should also account for such facts as that in phrases such as 'The killing of the boy by John' (from the ergative B.P. 'g, a [kill] ') the word 'of' goes together with 'the boy' rather than with 'killing' and the word 'by' - with 'John' rather than with 'the boy'. Since this question is not directly relevant to this thesis I shall not give here the formation rules by which these facts are accounted for, just outline my approach to the problems involved in stating such rules.

Notice that the presence of the article in 'The (a) killing of the (a) boy' requires both the presence of '-ing' immediately after 'kill-' and the presence of 'of' immediately before 'the (a) boy'. Notice also that 'killing a boy...' corresponds to 'For anyone to kill a boy...' where 'anyone' reflects the uninstantiated 'a' in 'a, a boy [kill]'; 'the killing of the (a) boy by John...' corresponds to 'For the (a) boy to be killed by John...', realizing 'the (a) boy, John [kill]'; 'A killing of a boy' - to 'For a boy to be killed by someone' - realizing 'a boy, someone [kill]'. The presence of the article in 'The (a) killing of the (a) boy' is then a realization of the fact that 'a' was instantiated. The article (or any other determiner) is a conditioning context for the presence of 'of' before 'the (a) boy'. The formation rule introducing 'of' will be a context-sensitive rule. It will turn 'n' into 'of n' if the predicator is preceded by a determiner. Such a rule must then be preceded by a rule which introduces a determiner before the predicator in case 'a' was instantiated.

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Now, the presence of a determiner in front of these pre-  
dicators will require that it be followed by the "dummy"  
element '-ing' (the same is required in some other contexts  
e.g. in case the variables of predicators of these type  
remain uninstantiated and are being deleted: 'a, n:a,  
n [kill] ' → 'killing' cf. above). Now, since our system  
does not include the category Verb, the question arises  
how the class of predicators to which this rule applies  
is to be differentiated. The answer is: by the B.P.-types  
to which the predicators belong. All the predicators be-  
longing to the type 'a, n [R]', for instance, but no  
predicators belonging, for instance, to the type 'ge [R] '  
will undergo this rule. The application of this rule to  
'a, n [book] ' will produce 'The booking of John' (John  
was booked), but its application to 'ge [book]' <sup>would</sup> will produce  
\*'The booking of John' (John has the book).

Let me add a remark concerning the question of parts  
of speech. Many rules which appear to presuppose cate-  
gories such as Noun, Verb, Adjective etc. can in fact be  
formulated in such a way that no reference to such cate-  
gories will be required. I shall illustrate this by an  
example from Arabic. (For brevity's sake the facts will be  
greatly oversimplified.) In simple sentences of the  
type 'nominal phrase + Adjective', the adjective agrees in  
case with the nominal phrase, e.g.

1.   ju:sufur                      ma'ri:   dun  
      Joseph (nom.)(is)   ill (nom.)
2.   ju:sufur                      'ha:dirun  
      Joseph (Nom.)(is)   present (nom.)

In 1. the stem consists of the root 'm-r-d' and the morpheme /-a'-i:-/. (Most stems in Arabic and other semitic languages consist of two elements: a root and a specific member of a special set of morphemes. The latter fulfil a variety of syntactic and semantic functions).

In 2. the stem consists of the root 'h - d - r' and the morpheme /'-a:-i-/. Now, most roots which occur with the morpheme /-a'-i:-/ belong to the class of adjectives, that is, they do not have the characteristic inflection of finite verbs. The morpheme /'-a:-i-/ on the other hand, is the so-called "participle". Most roots with which it occurs have the characteristic inflection of finite verbs. Now, a rule such as 'An adjective in predicate position agrees in case with its subject' will not cover sentences such as 2., since the roots in sentences of the latter kind do not fall under the class of adjectives. On the other hand, a rule such as 'An adjective or a verb in a predicate position agrees in case with its subject' will not do either, since finite verbs do not agree in case with their subject. The way out of this dilemma seems to be to formulate the rules not with reference to roots and the classes to which they belong, but with reference to the morphemes with which the roots are construed. The rules may take the following form:

I.  $s \Rightarrow x \text{ --- } u$

II.  $\begin{bmatrix} /' -a:-i-/ \\ / -a:'i:-/ \end{bmatrix} \Rightarrow \begin{bmatrix} /' a:-i-/ \\ / -a-'i:-/ \end{bmatrix} \text{ --- } u \text{ --- } x \text{ --- } u$

Rule I. states that the variable 's' is rewritten as an unlabeled variable followed by the nominative ending.

Rule II. states that the nominative ending '-un' becomes attached to each of the two morphemes in square brackets if these morphemes are preceded by 'xu'.<sup>+</sup>

21. A head-adjunct phrase such as 'the beautiful hall' in the sentence 'The beautiful hall is crowded' cannot be regarded as a realization of the B.P. 'x [beautiful] ' since the adjunct is optional (as is verified by the evidence of 'The hall is crowded'; the only value of 'y' in 'y [crowded] ' is 'the hall'). Note that in 'the beauty of the hall astounded me' the head is 'the beauty'. The phrase 'The beauty of the hall' is derived from 'x [beautiful] ', 'x' being instantiated as 'the hall'.

Hebrew brings out more clearly than English the distinction between coordinative and subordinative constructions of adjuncts, since the coordinate ones are expressed with the help of the conjunction 've-' "and":

'ha u'lam	ha ka'tan	ha la'van'
The hall	the small	the white

"The white small hall" (subordinative) vs.

'ha u'lam	ha ka'tan	ve	ha la'van'
The hall	the small	and	the white'

"The white, small hall" (coordinative). The latter construction is a conjunction of 'The hall is small and the hall is white'. Only the former has the constituent

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+ It is assumed that these two morphemes were introduced by rules which precede I and II. Each of them realizes certain different features in different environments.



structure (((white ((small (the hall.))) assigned  
by two applications of E.S.

There is a connection between the distinction coordinative vs. subordinative construction of adjuncts and the semantic interpretation of adjuncts. E.g., in the coordinative construction 'The big, blue hall' the hall is considered big not in comparison with another blue hall but in comparison with what happens to be regarded as a hall of an average size. In the subordinative construction 'the big blue hall' the hall is regarded as big in comparison with another specific blue hall (at least when a certain particular interpretation is adopted).

22. A relation can also be regarded as the direct product of two sets. (The concept is taken from the theory of sets: Given two sets A, B and their elements  $a \in A$ ,  $b \in B$ , the set C of all pairs 'a,b' is called 'the direct product denoted by  $A \times B$ , where 'x' designates the operation of the product. ('x' corresponds to multiplication in arithmetic). Suppose each of the variables in the B.P. 'a, g [eat]' has exactly four values, 'a' - the values 'John', 'Michael', 'Joan', and 'Tony', and 'g', - the values 'the bread', 'the egg', 'the cheese' and 'the potato'. Then the predicator '[eat]' designates the direct product of these two sets of four names. The number of all pairs 'a,g' in the above example is of course  $4 \times 4 = 16$ .

## 2. THE DESCRIPTION

### 2.1. Introductory

#### 1. Roots of type I. and their main properties.

Most C.I.H. roots<sup>+</sup> fall under a single major type (type I.) which however ramifies into various sub-types (I.A., I.B., etc.). The main properties active in this classification are: a. the form of the B.P.s which are defined by the roots. b. the Aktionsart distinctions associated with them. c. certain semantic features that are implied by the roots. All three control the choice of Binyan or Mishkal, or set of Binyanim or Mishkalim with which each root occurs.

Most roots which do not exhibit the characteristic features of this major type, or not all of them (defective roots) can nevertheless be said to belong to it, since their departure from the model has usually a simple explanation.

#### 2. The B.P.-type of type I.-roots

The B.P. defined by any non-defective root has the following general form (a number of relatively minor variations, which will be discussed further below are disregarded here):

$$\{a\} \quad n \quad [R \{Aktionsart\}]_0$$

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<sup>+</sup> The word 'root' is used informally in the sense of stem-lexeme (cf. p.47)

Some non-ergative B.P.s include, in addition to 'n', one or more additional variables. Cf. for instance the roots m-r-~~x~~ 624, m-~~x~~-k 638, n/~~q~~-f/p-l 673, etc. in the index.\*

The presence or absence of such additional variables has nothing to do with the question whether a certain root does or does not belong to type I. Furthermore, except the variable 'f' no additional variable plays any role in the classification of type I. into subtypes (cf. 2.6.2.).

The category of Aktionsart is relevant only to non-ergative B.P.s (for further discussion of this latter point cf. 2.1.6.).

Ex. 1. A sentence of which the B.P. is 'n [R {Aktionsart3}]:  
jo'sef ni } 'kav (The root }-k/x-v 945).  
'Joseph lay down'

Ex. 2. The underlying B.P. is 'a,n[R] (= 'a,g[R] Cf. p.292):  
jo'sef hi } 'kiv et da'vid  
'Joseph lay down David '

### 3. Aktionsart and aspect

C.I.H. has only two Aktionsart categories, each consisting of two contrasting terms, the marked one and the unmarked one. The Aktionsart category discussed below accompanies every non-defective non-ergative root in type I. The other Aktionsart category, which accompanies a small number of non-ergative roots, all in type II., is discussed in 2.8.

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\* Roots will be represented in this description by the phonological spelling of each root, followed by its ordinal number in the index.

The Aktionsart category in which we are interested here is represented by the symbol  $\{\overset{\circ}{\nearrow}\}$ . '  $\circ$  ' stands for the unmarked term and '  $\nearrow$  ' for the marked one. The "basic meaning" of '  $\nearrow$  ' is 'the stage of switching over to .... of the change leading to 1....'. This basic meaning varies slightly according to the meaning of each root. E.g. in case the root expresses a state or condition, the symbol '  $\nearrow$  ' is to be interpreted as 'switching over into this state'. In case the root expresses a quality or property, '  $\nearrow$  ' is to be interpreted as 'acquiring this quality or property' etc. In non-ergative formations '  $\nearrow$  ' is usually realized by a Binyan morph and the unmarked term ('  $\circ$  ') either by a Binyan morph, or, what is more common, by a Mishkal morph.

'  $\circ$  ' is neutral semantically. This assumption is a powerful one, since it enables one to show that one and the same category, namely  $\{\overset{\circ}{\nearrow}\}$ , accompanies a large number of roots with no semantic common denominator.

Ex. 3.

a. hu kizda'ken (root z-k-n 1270. Binyan Hithpa'el,  
'He grew old(er).' realizing '  $\nearrow$  ')

hu za'ken (same root, Mishkal ca'cec, realizing  
'He is old' or '  $\circ$  ').  
'an old man'.

b. hu hitja'ev (root j-{-v 1244, Binyan Hithpa'el  
'he sat down' realizing '  $\nearrow$  ').

Hu ja'ʃav (same root, Binyan pa'al,  
 'He sat (was sitting)' realizing '⊗').

c. ze hitʔa'ben (root ʔ/b-n 6, Binyan Hithpa'al,  
 'It fossilized' realizing 'ʔ').  
 ('became stone')

ze mʔu'ban (same root, Mishkal mcu'cac,  
 'It is fossilized' realizing '⊗').  
 or 'it is stone'

It is an undeniable fact that hizda'ken, hitja'ʃev and hitʔa'ben share a semantic feature, namely 'ʔ'. They also share a Binyan, namely Hithpa'al. Furthermore, one cannot escape the impression, that hizda'ken is somehow related to za'ken in the same way as hitja'ʃev to Ja'ʃav and hitʔa'ben to mʔu'ban. Yet, za'ken, ja'ʃav and mʔu'ban share neither a distinct, easily identifiable semantic feature, nor a Binyan or a Mishkal.

It seems necessary that one should be able to express the above valid generalization about hizda'ken, hitja'ʃev and hitʔa'ben and their relation to za'ken, ja'ʃav and mʔu'ban without at the same time glossing over the idiosyncracies of the latter. This can be achieved by assuming that ca'cec, Pa'al and mcu'cac in the above examples realize '⊗' in the contrast '{⊗}' and that '⊗' is neutral semantically.

With many non-ergative roots the term '⊗' in the Aktionsart contrast '{⊗}' is realized by a Mishkal which is formally identical to the passive perfect participle Mishkal of the Binyan which occurs with the corresponding ergative roots.

Ex. 4.

- a. ha sa'din hitka'met (non-ergative, Binyan  
'The sheet (got) creased' Hithpa'fel, realizing ' 7 ').
- b. ha sa'din mku'mat (non-ergative, Mishkal  
'The sheet (is) creased' mku'cac, realizing ' 8 ').  
(has been)
- c. jo'sef ki'met et ha sa'din (ergative, Binyan  
'Joseph creased the sheet' Pi'fel).
- d. ha sa'din ku'mat al jdei jo'sef (passive  
'The sheet was creased by Joseph' ergative,  
Binyan Pu'al)
- e. ha sa'din mku'mat (Jo'sef ki'met o'to)  
'The sheet (is, has been)(Joseph creased it)' Mishkal  
creased mku'cac,  
perfect passive)

The Mishkal (namely mku'cac) in Ex. 4.b. is identical to the Mishkal in Ex. 4.e. However, the former realizes the unmarked Aktionsart feature ' 8 ' in a non-ergative formation, whereas the latter realizes the marked aspectual feature perfect in a passive ergative formation (cf. 1.3.3.).

This identity between the Mishkal realizing ' 8 ' and the passive perfect participle is incidental. In many cases different Mishkalim are used for ' 8 ' and for the passive perfect:

## Ex. 5.

a. ha sa'din ka'car (non-ergative, Mishkal ca'cac,  
'The sheet is short' realizing '⊙').

b. ha sa'din mku'car (passive ergative. Mishkal  
'The sheet is, has been mku'cac-passive perfect)  
shortened'

In all the Binyanim except Pa'al there is no formal  
distinction between the passive present perfect and the  
passive present imperfect.

## Ex. 6.

a. al tca'lem o'ti.  
'Don't photograph me'

m?u'xar mi'dai. a'ta kvar mku'lam.  
'Late too [= too late]. You (are, already photographed'  
have been)

(Mishkal mku'cac, passive present perfect)

b. gam elizabet ve'gam a'ni mfursa'mim  
'Both Elizabeth and I are famous  
ve kol }i'huk }e'lanu mku'lam mijad (A.)  
and every hiccup of ours is being photographed right  
away'

(Mishkal mku'cac, passive present imperfect)<sup>†</sup>

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<sup>†</sup>(This latter example was taken from Mirkin 1968: 151).

However, in Binyan Pa'al there is a differentiation. The present perfect passive of Binyan Pa'al is Mishkal ca'cuc, while the present imperfect passive of the same Binyan is a variant of Binyan Niph'al (this, of course, applies only to a certain set of roots in ergative formations).

Ex. 7.

- a. ha'sefer nik'ne (passive present imperfect)  
'The book is being bought'
- b. ha'sefer ka'nuj (passive present perfect).  
'The book (is, has been) bought'

To see that the contrast '{ $\infty$ }' is one of Aktionsart, whereas the contrast perfect vs. imperfect is one of aspect one should recall the general discussion of the distinction aspect vs. Aktionsart in 1.3.3. Consider for instance, the following sentences:

Ex. 8.

- a. ani ja'xol lka'bel 'lexem?  
'I can [= can I] get some bread?'  
micta'zer, kol ha 'lexem nim'kar / ma'xur  
'Sorry, all the bread (was) sold/(is, has been) sold'
- b. k'e avar ti bmikre b'eize max'ne hu kvar haja  
'When I passed by chance through a certain camp it already was  
mattin kulovevani a'marti la xaja'lim: al  
mopped up the whole of it and I told the soldiers: don't  
tiru, kan kvar xu'sal ha'eseq. kan  
shoot, here the business has already been finished. Here  
kvar hamilxa'ma nigm'ra (A.)  
the war is finished already'.



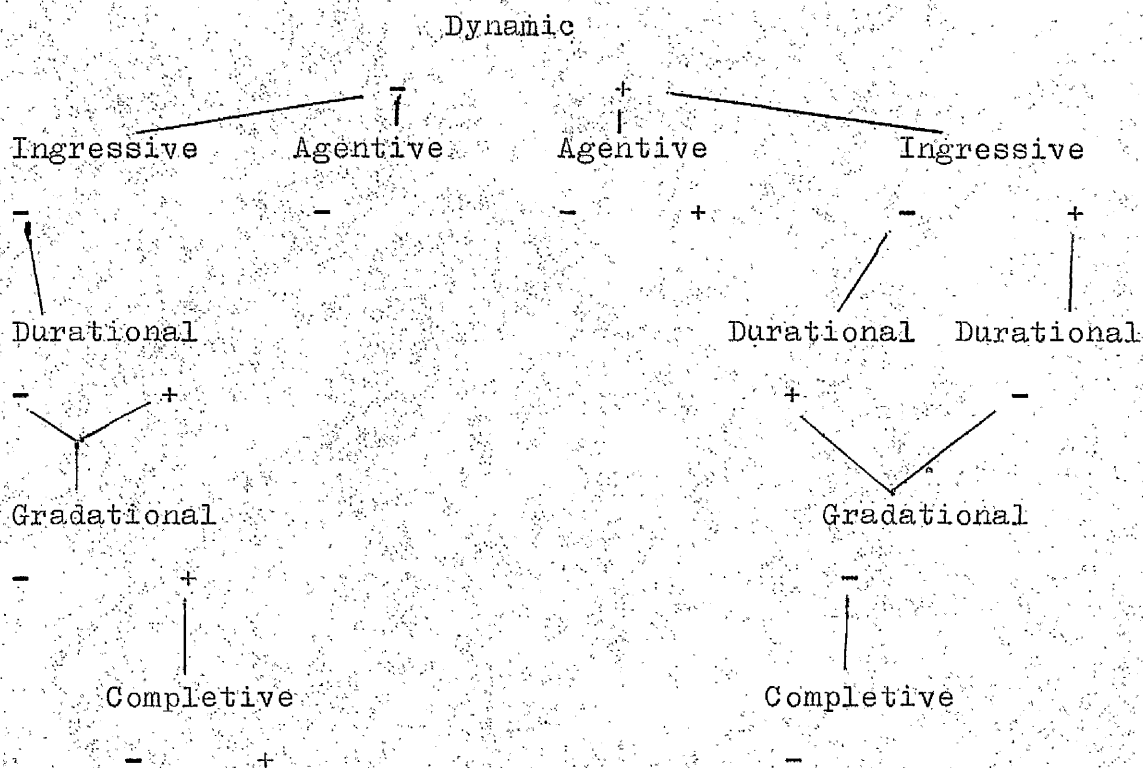
The distinction between *nim'kar* and *ma'xur* in Ex. 8.a. does not correspond to any "objective" difference. The sentence would convey exactly the same message, would refer to the same state of affairs, irrespective of whether *nim'kar* or *ma'xur* were selected. In both cases the sentence could be paraphrased: 'We are out of bread at the moment. We have sold it all'. The difference between *nim'kar* and *ma'xur* is a "subjective" one. It reflects different modes of expressing the same objective situation. The speaker would select *ma'xur* (perfect) if he preferred to present his statement as a description of the bread. He would choose *nim'kar* if he preferred to present it as an account of what was done with the bread. The same applies to the distinction between *xu'sal* (passive imperfect) and *mtu'har* (passive perfect) in Ex. 8.b. On the other hand, Aktionsart distinctions such as those in Ex. 3 do correspond to "objective" differences. Since there is a difference in "the real world" between, say, the action of sitting down and the state of sitting, the two sentences in Ex. 3.b. are not equivalent.

Notice that the Aktionsart contrast ' $\left\{ \begin{smallmatrix} \circ \\ \nearrow \end{smallmatrix} \right\}$ ' is preserved in nominalizations: *hitja* 'vut 'sitting down' vs. *j}i 'va* 'sitting' (cf. p. 35).

## 4. The semantic properties of roots in type I.

The semantic features implied by roots of type I. are charted in diagram I.

Diagram I.



If a root is marked as +Agentive this is shown by the presence of one of the variable 'a', 'ă', 'b' or 'dr' (cf. pp. 285-7 ) in its B.P. If it is -Agentive this fact is represented by the absence of the above mentioned variables from its B.P. The distinction between 'ă' and 'a' is roughly the one between "positively marked as indirect agent" and "neutral as to the distinction direct vs. indirect agent", respectively. For example, the root }-k/x-v 945 in the

ergative B.P. 'a,g [-k/x-v] ' can take either a direct agent or an indirect agent. According to a likely interpretation of Ex. 9.a. Ruth is the direct agent. She actually took the baby and put it in the bed. But in Ex. 9.b. the squadron commander will probably be taken as the indirect agent, since, according to a likely interpretation of this example, he did not actually lay the soldiers among the bushes, but just got them to do so by giving them an order, and similarly in Ex. 9.c.

Ex. 9.

- a. rut hi} 'kiva et ha ti' nok ba mitta  
 'Ruth lay the baby in the bed'
- b. mfa'ked ha plu'ga hi} 'kiv et ha xaja'lim  
 'The commander of the lay the soldiers  
 squadron  
 ben ha si'xim  
 among the bushes'
- c. lmoxo'rat hi} 'kivu Ootanu b ma?rav  
 'The following day they lay us in ambush  
 bma'kom a'xer (A.)  
 in a different place'

The root n-b/v-t 651 in the ergative B.P. 'a,g [-b/v-t]', on the other hand, must always take an indirect agent.

Ex. 10.

a. ha agro'nom hin'bit zra'ʔim ba ma ʔ ba'da  
 'The agronomist germinated seeds in the laboratory'

b. l moxo'rat ba'boker be'arba ha'jiti ca'rix  
 'The following day in the morning at four o'clock I had to  
 la'kum lifto~~x~~ et habra'zim, lhat'xil lhan'bit  
 get up to open the taps, to start germinating  
 et hazra'ʔim {el ha'tiras (A.)  
 the seeds of the corn'.

Notice that no symbol has been provided for variables that are positively marked as "direct agent". The reason for this is not that there are no roots which require direct agent in all contexts, such roots do exist. E.g.

Ex. 11.

jo'sef hid'bik et ha bul al ha maʔta'fa  
 'Joseph stuck the stamp on the envelope'

where Joseph must be the direct agent. The reason for the absence of such symbol from the notation is as follows: In all the roots which take either a direct or an indirect agent, 'n' (= 'g') is animate, and in all the roots which require always a direct agent, 'n' is inanimate.<sup>+</sup> Given that

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<sup>+</sup> The terms 'animate' and 'inanimate' are used here in a technical sense. In 'Joseph stuck together David and John', for instance, David and John would not be considered animate.

'n' is inanimate, one can predict that 'a' denotes a direct agent in all contexts. On the other hand, the question whether a root has an obligatory 'ā' in its B.P. is independent of the question whether 'n' is animate or inanimate. Therefore both a symbol such as 'ā' and a symbol such as 'a', are required, but a third symbol would be redundant.

Besides Agentive none of the features in diagram I, p.125 is manifested in any root's B.P.

Notice that from the point of view of "common sense" the terms -Agentive and -Ingressive in Diagram I, p. 125 are redundant, as both are implied by -Dynamic. A situation referred to as "static" cannot be referred to as "having an actor" and if an event is called Ingressive it must be designated as "dynamic".

The feature +Ingressive is similar in meaning to the Aktionsart feature '↑'. A root which implies +Ingressive indicates a change, usually a sudden one, in a body, position or state, or any other kind of change or shift. The root d-h-m 278 in Ex. 12 is +Ingressive since it implies a sudden change in someone's state of mind.

Ex. 12.

k {e a'ta nit'kal pit'ʔom b'ʔeize }ehu  
 'When you bump suddenly into some  
 mi{'pat {eme'ʔid al hava'na  
 sentence which gives evidence of understanding  
 a'ta ma'ma{ nid'ham  
 you literally get astounded'.

It is necessary to attribute this feature to the root

d-h-m 278 itself and not to the Aktionsart feature '  $\nearrow$  ', since Binyan Niph'<sup>al</sup> in the context of this root is not in contrast with any other Binyan or Mishkal (cf. p. 192ff).

What is meant by the features Durational and Gradational will be made clear presently, through a number of examples.

If a root implies a certain meaning feature this fact is usually reflected in its distribution. In other words, it imposes restrictions on the possibility of its concurrence with certain words, formations etc.

Ex. 13. The <sup>-durational</sup> +gradational root b/v-{-1 183 (occurring with Mishkal ca'cec ('  $\infty$  '), Hiph'<sup>al</sup> il ('  $\nearrow$  '), Hiph'<sup>al</sup> il (ergative) and Hoph'<sup>al</sup> (Ergative passive), and some of its distributional restrictions:

a. \* ha ta'pux ha'ze ha'ja ba'el  
'The apple the this was ripe  
(=this apple)

b'me'ex }a'taim, llo hafsa'ka  
during two hours without interruption'.

The feature -Durational implied by this root prevents it from co-occurring with durational adverbials. However, it can occur with non-durational temporal adverbials:

b. ha ta'pux ha'ze ih'je ba'el b'od 'kama  
'The apple the this will be ripe in a couple  
ja'mim  
of days'.

It can also occur in tenseless sentences with a

nominal predicate, of which b/v-}-l 183 is the modifier

c. ze ta'pux ba'}el

'This (is) an apple ripe [= a ripe apple]'.  
The fact that this root is +Gradational is reflected

in its ability to co-occur with gradational or comparative adverbials.

d. ha ta'pux ha'ze dai ba'}el

'The apple the this is rather ripe'

e. ha ta'pux }e'li jo'ter ba'}el me ha ta'pux

'The apple of mine is more ripe than the apple

}el'xa  
of yours'

Ex. 14.

+Durational root ?/ə -m-d 86. This root can  
The -Gradational

occur in sentences of the kind exemplified in Ex. 13 a.

a. ?a'madnu eize 'reva }a'?a al jad ha

'We were standing for about quarter of an hour near the

madre'got }el \* 'dar ha '?oxel (A.)

stairs of the dining - hall'.

It can also occur in sentences of the kind exemplified  
in Ex. 13.b., but not in sentences of the kind exemplified by  
Ex. 13.c.

b. \* hu ba'xur lo'med

'He (is) a boy standing [= a standing boy]'.  
It cannot occur in sentences of the kind exemplified

by Ex. 13. d., e.

Notice that +Durational roots refer to situations  
which are typically temporary, whereas -Durational roots

refer to situations which are typically permanent. However, it will not do to replace -Durational by +Permanent, and +Durational by -Permanent, since only the original features are analytic (cf. Ariel 1967: 345) in the present context. -Durational roots are not prevented from occurring in contexts in which the state denoted by the root can be characterized as temporary relatively to a certain standard. In such contexts they can occur with time adverbials which bring out the temporariness of the state, but not with adverbials of duration.

Ex. 15. With the -Durational root b/v-k-2/150

a. ha sfa'taim }e'li mvuka'ʔot ha'boker  
'My lips are cracked this morning'

b. \* ha sfa'taim }e'li lo hif'siku lih'jot mvuka'ʔot  
'My lips did not stop to be cracked  
beme }ex kol ha'boker  
during the whole morning'

Certain roots are <sup>±</sup>Durational, that is, they can be used in some contexts as +Durational and in some other contexts as <sup>±</sup>Durational. E.g. the root r-t-v 806 occurring with Hithpa'ʕel, ca'cuc, Hiph'ʕil and Hoph'ʕal.

Ex. 16.

a. ba ʔe'zor ha'ze ha ada'ma hi rtu'va  
'In this area the soil is damp'

b. zot ada'ma rtu'va  
'This is soil damp'



In a. and b. the root is -Durational. In c. it is +Durational.

- c. {ma , la<sup>2</sup>a'vod }am ze gehi'nom. xam  
 'Listen, to work there is hell. Not  
 ve kol ha zman mzi'ʔim. a'ta ra'tuv  
 and all the time they sweat. You are wet  
 de'me}ex '}mone {a'ʔot, llo hafsa'ka (A.)  
 during eight hours without pause.'

Some +Gradational roots are +Completive and some are -Completive. +Completive roots are roots which imply a state (or condition etc.) which can be either finished and complete or of a certain degree of completion.

Ex. 17. The +Completive root s-t-m 884.

- a. ha ci'nor ha'ze har'be jo'ter sa'tum  
 'This hose (is) much more clogged  
 ha'jom 'ma}e et'mol  
 today than yesterday'

Compare the -Completive root j-f/p-j/s 1235:

- b. 'dalja har'be jo'ter ja'fa ha {a'na mi ba  
 'Daliah (is) much more beautiful this year than the  
 {a'na {eʔav'ra  
 year that passed [= last year]'
- c. ha ci'nor haze legamri sa'tum  
 'The hose the this (is) completely clogged'
- d. \* dalja legamri jafa  
 'Daliah is completely beautiful'

As seen from Diagram I, p.125, if a root is +Ingressive and/or +Agentive it must be +Dynamic.

This explains the fact, stated in 2.1.2., that the contrast ' $\{\overset{\circ}{\lambda}\}$ ' is relevant only to non-ergative B.P.s.

As mentioned in p.125, roots in ergative B.P.s are usually active, that is +Agentive. By implication then, they are +Dynamic. Now, at least from the point of view of "common sense", +Dynamic roots cannot take ' $\{\overset{\circ}{\lambda}\}$ '. This contrast presupposes a static situation (expressed by the root itself, since ' $\overset{\circ}{\lambda}$ ' is neutral semantically, cf. p.119). Such that ' $\lambda$ ' denotes the stage of switching over into this situation. If the situation itself were referred to as "dynamic", it would make no sense to distinguish between it and the stage of switching over into it; when a ball is said to be bouncing, the stage of switching over into the bouncing may be expected to be referred to as an integral part of the bouncing itself. Therefore, ergative roots, which are, as mentioned above, +Dynamic, cannot take ' $\{\overset{\circ}{\lambda}\}$ '.

The latter remark has some bearing on the discussion concerning cases in which the contrast ' $\{\overset{\circ}{\lambda}\}$ ' neutralizes. These are discussed in 2.5.

## 5. Basic and derived occurrences of the Binyanim.

No Binyan or Mishkal morph can ever form a part of a B.P.. The Binyan morphs are supplied by formation rules. They occur only in formations.

The following is a general rule for C.I.H. (and perhaps for all semitic languages):

For any root X, in any formation in C.I.H., X must occur either with one, and only one Binyan morph or with one, and only one, Mishkal morph.

In certain contexts (that is, with certain specific roots in certain specific B.P.-types) certain Binyan morphs or Mishkal morphs are introduced as realizations for particular Aktionsart features which form an integral part of the predicator and of the B.P. Other occurrences of Binyan or Mishkal morphs represent no "deep" features. They are redundant, therefore empty. They are there, as it were, just because this is required by the rule stated above. However, certain Binyanim or Mishkalim have "semantic tie-up" (.C.E. Bazell's term), that is, a high proportion of the roots which occur with a certain specific Binyan or Mishkal or set of Binyanim or Mishkalim imply some particular meaning features. E.g., most <sup>+Durational</sup>-Gradational roots which occur with Pa'al in non-ergative formations in type I. are <sup>+Durational</sup>-Gradational. This does not necessarily mean that Pa'al is the realization of the features <sup>+Durational</sup>-Gradational.

In non-ergative formations the redundancy of a Binyan or a Mishkal may be due to the fact that the Aktionsart contrast is neutralised in the environments of certain classes of roots (cf. 2.5) or to the fact that with certain classes of roots the category of Aktionsart is totally irrelevant (cf. 2.1.3 ). In ergative formations the redundancy of the Binyanim is due to the fact that the Aktionsart category is relevant only to non-ergative formations.

It would be a mistake to say that the function of certain Binyanim is to differentiate between ergative and non-ergative formations, since this differentiation is achieved by other means (the number and order of the variables, prepositions, animatedness etc.).

In the following description a distinction will be made between "basic" and "derived" occurrences of Binyanim or Mishkalim. The term "basic" will apply to those occurrences of Binyanim or Mishkalim which are introduced by formation rules operating only on a B.P.-type which has not undergone any operation and which has no peculiar instantiations. Derived occurrences of Binyanim and Mishkalim are those occurrences which are introduced by formation rules operating on B.P.-types which have undergone certain operations, or which have peculiar instantiations.

Let me illustrate the distinction between basic and derived occurrences of Binyanim and Mishkalim.

Ex. 18.

- a.            ha      xa'lon    ni } 'bar  
              'The   window   broke'
- b.            ha      xa'lon    } a'vur  
              'The   window   is broken'
- c.            jo'sef   } a'var    et    ha    xa'lon  
              'Joseph broke        the    window'

In Ex. 18. the occurrences of Niph'al, ca'cuç and Pa'al are basic. The root  $\{-v-r\}$  is placed under type I., since it defines the B.P. 'a, n  $[\{-v-r \ \{\frac{s}{\pi}\}]\$ . It is subsumed under subtype I.A.2. since in non-ergative formations '  $\pi$  ' is realized as Niph'al and '  $\circ$  ' as ca'cuç, and in ergative formations it must occur with Pa'al. No

operation should be performed on the B.P. before the rules introducing Pa'ʕal, ca'cuc and Niph'ʕal can take effect. The rules can operate directly on the B.P. itself. Their application does not depend on any peculiarity in the B.P.'s instantiations.

The occurrences of the Binyanim in Ex. 19 are derived.

Ex. 19.

- a. ha 'delet nift'xa al jdei ba'xur ga'voh ve ra'xav  
'The door was opened by a lad tall and big'
- b. ha ci'nor hi'tiz 'maim  
'The hose sprinkled water'
- c. da'vid ve mir'jam hitna' } ku  
'David and Miryam kissed'
- d. jo'sef hitga'red  
'Joseph scratched himself'

In Exl 19.a. the rule introducing Binyan Niph'ʕal operates on 'n, a [p-t-x], that is, on the passive converse of the ergative B.P. 'a, n[p-t-x]. In other words, the rule applies only to a B.P. on which an operation (deriving the converse) was performed (for further discussion cf. 2.10.3.)). Similarly, the rule introducing Hiph'ʕil in Ex. 19.b. applies only to the non-ergative B.P. 'el, a [n/ʕ-t-z], the converse of 'n, el [n/ʕ-t-z] (for further discussion cf. 1.10.3.)).

The rule introducing Hithpa'ʕel in Ex. 19.c. operates only on instantiations with the following peculiarities. The form of the instantiation is

' (da'vid<sub>1ao</sub> , mir'jam<sub>1go</sub> [n-ʕ-k] ) and (mir'jam<sub>1ao</sub> ,

david<sub>lgo</sub> [n-{-k}]<sub>o</sub>) simultaneously.' That is, the underlying instantiation must be a conjunction of two instantiations of the same B.P., such that the value of 'a' in each of the constituent instantiations is identical to the value of 'g' in the other. (For further discussion cf. 2.10.2.)

In Ex. 19.d. the rule introducing Hithpa'el operates only on instantiations with the following peculiarities. The instantiation must have the form 'jo'sef<sub>lao</sub> jo'sef<sub>lgo</sub> [g-r-d]<sub>o</sub>'. The value of 'a' must be identical to the value of 'g'. (For further discussion cf. 2.10.1).

The subclassification of the roots in this thesis is directly affected by the question with what Binyanim or Mishkalim each root occurs. This was one of the criteria, for instance, for the classification of type I. into subtypes. E.g. subtype I.A.4. is the class of those roots which occur in non-ergative formations with Hithpa'el or a Mishkal and in ergative formations with Pi'el.

However, one should take note of the fact, that the classification of the roots according to the Binyanim or Mishkalim which they take is based on the basic, not the derived occurrences of the Binyanim or Mishkalim. The derived occurrences are not grouped into classes on their own right. If a group of B.P.s with some common features, such as a common variable, is distinguished by the fact that after a certain operation has been performed on each B.P. the output can be realized by actual formations with certain specific characteristics, the Binyanim or Mishkalim which the roots in these formations take are described as the class of derived Binyanim, or Mishkalim associated with the group of B.P.s in

question. In some cases most roots in such a group take the same Binyan in the formations realizing the output of the operation. E.g. most roots in reflexive formations take Hithpa'el (cf. 2.10.1). However, it is not this latter fact that motivates the grouping of these roots under the same heading. It is, as stated above, the fact that their B.P.s have special formations realizing the output of a certain specific operation performed on them.

Now, it is true that some groups of roots which take derived occurrences of Binyanim share certain meaning features. E.g. many reflexive roots denote activities connected with making one's toilet. However, this cannot be described as a semantic tie-up of Hithpa'el, since the fact that these roots take Hithpa'el is not the reason why they are classified together.

In certain other cases, roots which are classified together since they share certain formations realizing the output of a specific operation performed on B.P.s of a certain kind take a variety of (derived occurrences of) Binyanim. In other words, the classification of roots which take derived occurrences cuts across the classification of roots according to basic occurrences.

The basic occurrences of the Binyanim are discussed in 2.2 - 2.9. The derived occurrences in 2.10.

## 6. Semantic differences between ergative and non-ergative B.P.s.

As mentioned in 2.1.4. -Dynamic roots cannot define ergative B.P.s.. As is seen from Diagram 1, p.25 such roots cannot be +Ingressive. On the other hand, roots occurring in ergative B.P.s must be +Dynamic and can be

+Ingressive. All the non-defective non-ergative B.P.s are -Dynamic, and by implication -Ingressive. The semantic value of such roots is not affected by the choice of '  $\omega$  ' with them (cf. p. 119 ). However, if the Aktionsart feature selected with such a root is '  $\nearrow$  ', this has the effect of turning the predicator (i.e. the root plus the Aktionsart feature) into +Ingressive and by implication, into +Dynamic and  $\pm$ Agentive (cf. Diagram 1, p. 125 ).

Ex. 20.

a. hu {a'xav {a'lo} {a''ot bli la'zuz

'He was lying for three hours without moving'

b. k{e {a'xavnu ha'ja mas'pik zman laʒ'oy (A.)

'When we were lying there was sufficient time for thinking'

c. ni{m'ʔa jri'ja veku'lam ni{k'vu k'heref

'There was heard a shot and all lay down like a twitching  
?ain

of the eye [i.e. in fraction of a second] ' (A.)

The underlying B.P. of all the sentences in Ex. 20. (ignoring optional parts) is 'n[-k/x-v{ $\omega$ }]<sub>o</sub>. In a. and b. the Aktionsart feature selected is '  $\omega$  '. These sentences are acceptable since they imply -Ingressive and -Dynamic. They would not be acceptable if Pa'ʕal (realizing '  $\omega$  ') were replaced by Niph'ʕal (realizing '  $\nearrow$  ').

{-k/x-v with Pa'ʕal is also -Agentive (Ex. 20.a., for instance, can occur in contexts from which it is clear that the subject refers to a dead man).



The verb  $ni\{k'vu$  in Ex. 20.a. is +Dynamic, +Ingressive and +Agentive. If it were replaced by  $\{ax'vu$  the sentence would become unacceptable.

When a -Dynamic root defines an ergative B.P. it turns into +Dynamic and, by implication  $\pm$ Ingressive.

Ex. 21.

a.     k       'heref   '?ain   hi\{'kiv   jo'sef   et da'vid   al  
       'Like a twitching of the eye lay Joseph       David on  
       ha   ric'pa.  
       the floor'

b.     \* llo    tnu'?a       ve    b'me\{ex   \{a'lo\}   \{a'ot  
       'Without moving       and       during   three hours  
       hi\{'kiv   jo'sef       et   da'vid   al   ha ric'pa  
       lay       Joseph       David on   the floor'

As seen from Ex. 21., the root in ergative B.P. is +Ingressive. From a semantic viewpoint the latter statement is equivalent to the statement that the root in ergative B.P. implies '  $\nearrow$  ': By asserting that Joseph performed the "ingressive" act of laying David on the floor one implies that Joseph switched David over to a position of lying. The ingressiveness (or '  $\nearrow$  '-ness) of roots in ergative B.P.s is necessitated by the fact that they are +Agentive and by implication +Dynamic. Roots such as  $\{-k/x-v$  945, which denote a static body position, can become +Dynamic only if they have become +Ingressive (in other words, only if '  $\nearrow$  ' has been added to them): one cannot be the agent of the state of lying itself, only of the (dynamic) act of switching someone over to a position of lying.

In this respect the semantic effect of turning a

root such as  $\{-k/x-v\}$  945 into an ergative root is similar to the semantic effect of adding to it the Aktionsart feature ' $\uparrow$ ' in a non ergative B.P.. In both cases the root becomes +Dynamic and +Ingressive.

The foregoing seems to suggest that the ergative B.P.-type should be reformulated as ' $a, n [R\{\uparrow\}]$ ', where the roots do contract the Aktionsart category, but within this category the actual contrast between ' $\uparrow$ ' and ' $\downarrow$ ' neutralizes and only the feature ' $\uparrow$ ' is realized. However, such reformulation would introduce unnecessary redundancy into the description, since the presence of the feature ' $\uparrow$ ' in ' $a, n [R\{\uparrow\}]$ ' is completely predictable. It is presupposed by two features: a. The presence of 'a' in the B.P. (implying that the predicator must be +Dynamic). b. The fact that the root is "originally" (that is, in non-ergative B.P.s) -Dynamic (implying that the feature +Dynamic, required by the presence of 'a', cannot be "supplied" by the root itself). If the root is "originally" +Dynamic no feature ' $\uparrow$ ' should be added to the predicator, in other words the predicator should not be turned into a +Ingressive one before it can take an agent and define an ergative B.P. This is the case, for instance, in the following sentence,

Ex. 22.

jo'sef hik'pic et ha ka'dur

'Joseph bounced the ball '

In this example the verb is not necessarily +Ingressive. Jo'sef is the agent of the bouncing itself, not of the "switching over into bouncing" stage.

Notice that Hiph'il has not in itself, separately, been described as the realization of any particular distinct element in the ergative B.P. . Against this view it may be

argued, that one should postulate a deep feature such as Ergative or Causative, or which Hiph'il would be regarded as the surface realization. However, this argument is rather weak. In the context of roots of subclass I.A.3. the Binyan realizing '  $\sqrt{\text{ }}$  ' in the non-ergative B.P. is Hiph'il (cf. 2.2.4.) and the same Binyan takes part in the realization of the ergative B.P.

Ex. 23.

- a.        ha'kir        hi} 'xir  
           'The wall    blackened'
- b.        jo'sef    hi} 'xir    et ha'kir  
           'Joseph   blackened the wall'

No speaker of C.I.H. will have the slightest difficulty in recognizing that Ex. 23.a. realizes (n[{-x-r}{ $\sqrt{\text{ }}$ }]', whereas Ex. 23.b. realizes 'a,n. [{-x-r}]' (the reference is, of course, to intuitive recognition of the facts, not to any ability to formulate them) despite the fact that the root and the Binyan-morphs are the same in both sentences. The ergativity or causativity of Ex. 23.b., as compared with the non-ergativity of Ex. 23.a. is sufficiently marked by the following facts: a. In Ex. 23.b. the root takes two obligatory nominal elements, as compared to one in Ex. 23.a. b. The subject in Ex. 23.a. "becomes" the direct object in Ex. 23.b. c. The subject in Ex. 23.a. is non-agentive, whereas the "new" subject in Ex. 23.b. is agentive; and so forth.

Any attempt to describe the Binyan morph in an ergative sentence as the one-to-one realization of a particular distinct feature in the ergative B.P. amounts to repeating the traditional mistake of forcing syntactic

facts involving more than a single word into a morphological straightjacket, where everything falls within the boundaries of a single word (cf. P.27 ff).

Since it has been decided not to include '  $\uparrow$  ' in ergative B.P.s with "originally" -Dynamic roots, and not to regard the Binyan in ergative sentences as the realization of any particular distinct feature, it must be concluded that the root in sentences such as Ex. 23.a. is semantically different from the same root in sentences such as Ex. 23.b. The former is stative whereas the latter is active. One is free to postulate two different lexical elements: the root A in a non-ergative B.P. and the root A' in an ergative B.P. (cf. 1.6.6 ). This will increase the number of entries in the dictionary, but at the same time will make the grammatical description more powerful. Many roots define no non-ergative B.P.s, just ergative ones.

Ex. 24.      hem    hir'?'i } u    et    ha '?'ir  
                 'They bombarded    the    city'

The root r-?/ø- } 749 does not occur (at least not in the same meaning) in any non-ergative sentence. The Binyanim in the realizations of such ergative-only roots are the same as those in the realization of ergative-with-corresponding-non-ergative roots. E.g., the ergative-only r-?/ø- } 749 takes Hiph' il, and so does the both-non-ergative-and-ergative } -k/x-v 945). Furthermore, many ergative-only B.P.s underlie the same formations as both-ergative-and-non-ergative B.P.s, in other words, they share their formation rules. The assumption that a root in a non-ergative B.P. is not the same lexical item as a phonologically identical root in an ergative B.P. will enable us to include

ergative-with-no-corresponding-non-ergatives under type I. instead of setting up a separate class. The absence of a non-ergative B.P. in each case will be attributed not to any special and distinct patterning in the grammar, but to a "whim" of the lexicon. For instance, the fact that Ex. 14 realizes a B.P. which has no corresponding non-ergative B.P. will not be explained by the assumption that it belongs to a "purely transitive" system, distinct and different from the ergative-non-ergative system, but by the assumption that the dictionary includes no stative root  $r-2/3-$  corresponding to the existing active root of the same phonological shape. The formation rules will then operate on ergative B.P.s and on non-ergative B.P.s separately, and the same set of formation rules will apply to ergative B.P.s with corresponding non-ergative B.P.s and to ergative B.P.s without corresponding non-ergative B.P.s.

Let me turn now to a detailed discussion of the various subtypes of type I.

## 2.2. Subtype I.A.: non-defective roots.

### 1. Introductory

Every root of this subtype exhibits all three properties of type I. (cf. 2.1.). However, the rest may be classified into a number of sub-classes according to the Binyanim and Mishkalim which occur with them. Different groups of Binyanim and Mishkalim are selected by root-classes which are differentiated by the fact that in each class many roots share certain particular semantic features. In other words, different groups of Binyanim and Mishkalim have a different semantic tie-up (cf. table 4, 1.172 and 2.3). The congruence

between root-classes defined by the groups of Binyanim with which they occur and root classes defined by certain semantic features is partial, not total.

In addition, the roots in each of the root-classes distinguished by the Binyanim with which the roots belonging to it occur tend to subdivide into smaller groups, again, according to certain particular meaning features.

2. Subclass I.A.1.: roots occurring with Pa'al or a Mishkal ('  $\text{ע}$  '), Niph'al ('  $\text{פ}$  ') and Hiph'il (ergative).

### The roots

This subclass is a small one. It includes just twenty roots.

$\text{ז/ק}$ -m-d 86, b/v-h-l 146, c-m-d 235, d-b/v-k 262, d-l-k 287, k/x-b-j/ 488, k-f/p- $\text{ז/ק}$  501, k-l-t 511, k/x-p-l 531, r-g- $\text{ז/ק}$  764, r-k-v 775, s- $\text{ז/ק}$  -r 815,  $\text{ז}$ -k- $\text{ז/ק}$  934,  $\text{ז}$ - $\text{ז/ק}$  -n 916,  $\text{ז}$ -k/x-v 945, t-b/v- $\text{ז/ק}$  1022, v/j/ $\text{ק}$  - $\text{ד}$ - $\text{ז/ק}$  1068, x-l- $\text{ז}$  1141, j- $\text{ז}$ -n 1242, (cf. also r-d-m 762), z-k/x-r 1271.

### Formational characteristics of roots in I.A.1.

Root j- $\text{ז}$ -n 1242 (cf. also r-d-m 762) has two realizations in complementary distributions: r-d-m with Niph'al (realizing '  $\text{פ}$  ' ; nir'dam 'He fell asleep') and j- $\text{ז}$ -n elsewhere.

In ergative formations the root k/x-b-j/ $\text{ק}$  488, takes Pi'al (all the other roots take Hiph'il).

'  $\text{ק}$  ' has no uniform realization:

## Roots

## Mishkal or Binyan

realizing ' ∅ '

c-m-d 235, d-b/v-k 262,

k/x-b-j/∅ 488, k-f/p-ʔ/∅ 501, ca'cuc

k-l-t 511, k/x-p-l 531,

r-k-v 775, t-b/v-ʔ/∅ 1022.

ʔ/∅ -m-d 86, d-l-k 287,

r-g-ʔ/∅ 764, s-ʔ/∅ -r 815,

{-k/x-v 945, j-}-n 1242, Pa'ʕal

z-k/x-v 1271, v/j/∅ -d-ʔ/∅

1068.

b/v-h-l 146

mcu'cac

x-l-} 1141

ca'cac

With d-l-k 287, r-g-ʔ/∅ 764, s-ʔ/∅ -r 815, {-k/x-v 945, ' ∅ ' is sometimes realized as ca'cuc instead of Pa'ʕal. With r-g-ʔ/∅ 764 this is very often the case.

With k/x-b-j/∅ 488, k-f/p-ʔ/∅ 501, {-k-ʔ/∅ 934 and t-b/v-ʔ/∅ 1022, ' ʔ ' is sometimes realized as Pa'ʕal.

This is considered the "correct" form. However, in

colloquial use Niph'ʕal is quite common as the

realization of ' ʔ ' with these roots. The

general tendency is to use Pa'ʕal in non-ergative formations only with roots that are inherently +Dynamic (cf. 2.5.).

The above four roots cannot be considered inherently

+Dynamic, since they take ' ∅ ' (realized as ca'cuc),

and the contrast ' {ʔ} ' is relevant only to -Dynamic roots

(cf. p. 133 ). When they are +Dynamic, then, this must be

attributed to the presence of ' ʔ '. This explains, perhaps,

the shift from Pa'ʿal, one of whose functions is to realize  
 ' ʔ ', to Niph'ʿal, one of whose functions is to realize  
 ' ʔ '.

The root }-ʔ/ʕ -n 916 is used with Niph'ʿal both when the meaning is "switch over into a position of leaning" and when it is "be in a position of leaning". However, some speakers use Niph'ʿal only when the meaning is ingressive and ca'cuc when the meaning is neutral. This root, then, may be viewed as belonging to I.A.1. (in ergative formations it takes Hiph'ʿal).

The root m-t 634 occurs with Mishkal cec both when the meaning is ingressive and when it is neutral. In ergative formations it occurs with Hiph'ʿal. It may perhaps be considered a I.A.1. root, since Niph'ʿal never occurs in C.I.H. as the realization of ' ʔ ' in the environments of bi-consonantal roots.

#### Semantic characteristics of the roots in I.A.1.

As mentioned in 2.2.1. there is a partial correspondence between the classification of the roots in I.A. according to the groups of Binyanim with which they occur and their classification according to semantic features. Since I.A.1. is a very small subclass, and one of the least productive (the term "productive" is to be understood here in a genetic sense), there seems to be hardly any point in making generalizations about its dominant semantic features. However, there is no harm in summarizing some obvious facts.



Looking at the ergative B.P.s it strikes one that a relatively large number of roots (ten out of twenty) have 'ä' rather than 'a' in their B.P.. Adding to these the six roots which have 'a' in their B.P., but can take an animate value for 'n', in other words, the roots which have an optional indirect agent in their B.P. (cf. p. 125ff), namely ʔ/ə-m-d 86, c-m-d 235, d-b/v-k 262, {-k/x-v 945, v/j/ə-d-ʔ/ə 1068 and z-k/x-r 1271, one can come to the conclusion that roots in I.A.1. tend to be "indirectly agentive" in ergative B.P.s.

In non-ergative B.P.s six roots are <sup>+Durational</sup>  
<sup>-Gradational</sup> :  
 ʔ/ə-m-d 86, d-l-k 287, {-k/x-v 945, v/j/ə-d-ʔ/ə 1068, j-{-n 1242 and z-k/x-r 1271. This list includes all the roots which occur with Pa'al as the realization of 'ə', except z-k/x-r 815.

Ex. 25.

- a. ʔa'madnu eize 'reva {a'ʔa al jad  
 'We were standing for about a quarter of an hour by  
 ha madre'got el xa'dar ha'ʔoxel  
 the stairs of the hall of dining' (A.)
- b. \* hu ja'an lma'dai  
 'He was sleeping rather (to a certain extent)'

The roots v/j/ə-d-ʔ/ə 1068 and z-k/x-r 1271 are the only roots in I.A. (with one exception, the root b/v-h-r 149 in I.A.5.) that can take a "content object", that is, a B.P. denoting the content of a thought, a wish etc. (a value of the variable 'f'). Most content object roots belong to I.E.2., cf. 2.6.2..

## Ex. 26.

- a. ja'da'ti {e ha ana'jim {e ʔo'lim  
 'I knew that the people who climb up  
 bamaʔ'le ha ze hem b'derex klal  
 the uphill-road the this are usually  
 ana'jim {e ei'nam xaja'lim (A.)  
 people who are not soldiers'
- b. ani z'oxeret {e ha'ja viku\* ka'tan  
 'I remember that there was a little argument  
 bein'xa vbein 'naxum (A.)  
 between you and Nahum'.

+Durational  
 One root is +Gradational : (b/v-h-l 146)  
 -Completive

## Ex. 27.

- a. b me{ex xa'me} da'kot hu ha'ja ku'lo  
 'For five minutes he was all  
 mvo'hal  
 scared (shaken)'
- b. hu nih'ja jo'ter v jo'ter mvo'hal  
 'He got more and more scared'
- c. \* hu mvo'hal legamri  
 'He (is) scared completely'

Three are -Durational : k-l-t 511, k/x-p-l 531,  
 -Gradational : t-b/v-ʔ/φ 1022.

## Ex. 28.

- a. \* jo'sef ha'ja tavuʔ bme{ex xci  
 'Joseph was drowned during half  
 {a'ʔa llo hafsa'ka  
 an hour, without interruption'.

b. \* hu jo'ter ta'vu? ha'jom ma'e et'mol  
 'He is more drowned today than yesterday'

-Durational  
 One is +Gradational : r-k-v 775.  
 +Completive

Ex. 29.

a. \* hata'pu\* haze ha'ja ra'kuv b'me'ex  
 'This apple was rotten during  
 {a'lo} {a'ot  
 three hours'

b. hata'pu\* haze ra'kuv l'gamri  
 'This apple is rotten completely'

Five are <sup>+</sup>Durational : c-m-d 235, d-b/v-k 262,  
~~-Gradational~~ k/x-b/j/q 488, } -~~z/q~~-n  
 916, } -k-~~z/q~~ 934.

Ex. 30.

a. ze har 'ga?a} ka'vuj  
 'This is a volcano an extinguished one'

b. hamno'ra haj'ta kvu'ja b'me'ex 'eser da'kot  
 'The lamp-light was put out during ten minutes'

<sup>+</sup>Durational  
 One is +Gradational : k-f/p-~~z/q~~ 501.  
 +Completive

Ex. 31.

a. ze ba'sar kafu?  
 'This is meat frozen'

- b. b'me}ex ha. }a'taim {eze ha'ja bamka'rer  
 'During the two hours that it was in the fridge  
 haba'sar ha'ja ka'fu?  
 the meat was frozen'
- c. ha'ja kor a'jom v ha'maim ha'ju kfu'?im  
 'There was a terrible freeze and the water was frozen  
 lgamri  
 completely'

+Durational  
 Three are +Gradational : r-g-ʔ/φ 764, s-ʔ/φ -r 815,  
 -Completive  
 x-l- 1141.

Ex. 32.

- a. hu ba'xur xa'la}  
 'He is a boy weak'
- b. \* hu xa'la} lgamri  
 'He is weak completely'

Let me return for a while to the roots k/x-b-j/φ 488, k-f/p-ʔ/φ 501, {-k-ʔ/φ 934 and t-b/v -ʔ/φ 1022, with which 'ʔ' is realized as Pa'sal in standard speech and as Niph'sal in colloquial speech (cf. above). Since k/x-b-j/φ 488 and {-k-ʔ/φ 934 are +Durational, -Gradational, t-b/v- / 1022 is -Durational, -Gradational and k-f/p-ʔ/φ 501 is +Durational, +Gradational, +Completive the choice of Niph'sal rather than Pa'sal as the realization of 'ʔ' is in line with the general pattern of use in C.I.H.: Besides the roots mentioned above only two roots in I.A., g-v-h 445 and g-d-l 409, take Pa'sal as the realization of 'ʔ'. On the other hand the majority of +Durational, -Gradational

-Durational            +Durational  
 -Gradational and +Gradational roots in I.A. take Niph'al  
                          +Completive

as the realization of '  $\nearrow$  ' (cf. table 5, p. 173).

As to the roots g-v-h 445 and g-d-l 409, both take ca'cuc

as the realization of '  $\omega$  ' and Pa'al as the realization of

'  $\nearrow$  '. Unlike the above-mentioned roots, no speaker uses

them with Niph'al. This can perhaps be explained by the

fact that both are +Durational. Most roots in I.A. with  
                          +Gradational  
                          -Completive

these meaning features take Hiph'il or Hithpa'el. Roots

g-v-h 445 and g-d-l 409 are then exceptions in the sense that

they occur with Pa'al rather than Hiph'il or Hithpa'el.

The +Durational roots r-z-j/  $\omega$  812 and { -m-n 966  
                          +Gradational  
                          -Completive

are used by some speakers with Pa'al (realizing '  $\nearrow$  ').

However, many speakers follow the general pattern and use

them with Hiph'il (cf. 2.2.4.).

3. Subclass I.A.2.: Roots occurring with Niph'al ('  $\nearrow$  '),  
                          ca'cuc ('  $\omega$  ') and Pa'al (Ergative).

### Formational Characteristics

With the roots  $\text{?}/\omega$  -s-f 107,  $\text{?}/\omega$  -t-f 116, c-b/v-r

210, h-f-x 458 and { -x-k 1006 '  $\nearrow$  ' is realized either as

Niph'al or as Hithpa'el. The variation is free. All

the other roots in this subclass are regular, that is,

with all of them '  $\nearrow$  ' is realized by Niph'al and '  $\omega$  '

by ca'cuc, and the Binyan which occurs with the root in

ergative formations is Pa'al.

# Semantic characteristics

In ergative B.P.s only two roots take an obligatory occurrence of 'ä': r-t-m 798, when used metaphorically as part of the idiomatic expression 'r-t-m la ma<sup>2</sup>'mac

'harness to the efforts  
msi'ma etc. and the root f/p-t-r 384.  
task'

r-t-m 798, in its non-metaphorical, non-idiomatic sense, belongs not to I.A.2, but to I.B.1. (cf. 2.7.1.). The rest take just 'a'. Among the latter there are no roots which can be interpreted either as "direct Agentive" or as "indirect agentive".

The difference between I.A.1. and I.A.2 (of which the most conspicuous mark is the Binyan occurring with each root in ergative formations - Hiph'<sup>7</sup>il with the roots in I.A.1 and Pa'<sup>7</sup>al with the roots in I.A.2) correlates, then, with the semantic distinction indirect agentive vs. direct agentive. Most roots in I.A.2. imply direct agentive.

In non-ergative B.P.s no root is +Durational.  
Twenty seven roots are -Durational : ʔ/ø -f-j/ø 71,  
-Gradational : ʔ/ø -g-r 73, ʔ/ø -r-f 98, ʔ/ø -r-g 99, ʔ/ø -s-j/ø 113,  
c-l-j/ø 233, c-r-f 242, d-k-r 283, f/p-c-ʔ/ø 317,  
f/p-g-ʔ/ø 324, f/p-r-c 353, f/p-t-r 385, g-m-r 425, h-d-f  
455, h-r-g 465, m-h-l 609, m-ʔ-c 637, s-r-t 881, s-ʔ-f 895,  
{-f/p-x 932, {-t-f 987, t-l-{} 1038, x-c-v 1110, x-c-j/ø 1111,  
x-f/p-r 1117, x-n-k 1153, x-r-t 1169, x-t-x 1208.

Eight roots are -Durational : h-r-s 466,  
+Gradational  
+Completive  
k-r-ʔ/ø 535, m-r-t 623, m-ʔ-k 638, s-r-f 876, s-ʔ-t 899,  
{-b/v-r 922, {-ʔ-k 1006.

Twenty six roots are ±Durational: ʔ/ø -k-r 75,  
-Gradational

ʔ/ɸ -s-f 107, ʔ/ɸ -t-f 116, ʔ/ɸ -x-z 123, b/v-l-m 161,  
 b/v-n-j/ɸ 168, c-b/v-ʔ/ɸ 209, c-b/v-r 210, c-b/v-t 211,  
 d-r-x 302, f/p-r- ʔ/ɸ 351, f/p-t-r 384, h-f-x 458,  
 k-b/v-r 485, k-ʃ-r 554, l-k/x-d 587, m-r-x 624, n-ʔ/ɸ-l 643,  
 r-t-m 798, ʃ-l-f 947, ʃ-t-l 993, t-ʔ/ɸ-n 1017, t-f/p-s  
 1028, t-k-ʔ/ɸ 1030, t-l-j/ɸ 1039, x-l-c 1128.

Ten roots are <sup>+</sup>Durational : ʔ/ɸ -c-m 62,  
<sup>+</sup>Gradational  
<sup>+</sup>Completive

ʔ/ɸ -t-m 118, f/p-k-x 337, f/p-r-m 359, f/p-t-x 388,  
 s-f/p-g 382, s-g-r 836, s-t-m 884, x-s-f 1175, x-s-m 1177.

Three roots are <sup>+</sup>Durational : d-f-k 269,  
<sup>+</sup>Gradational  
<sup>-</sup>Completive

d-x-s 311, l-x-c 597.

Altogether seventy four roots.

#### Examples:

Ex. 33. -Durational  
 -Gradational

a. \* ha'maim ha 'ele ʃfu'xim b'meʃex zman dai ka'car  
 'This water is spilled during a rather short  
 period of time'

b. \* ha 'a'le ha'ze ta'luʃ mʔod  
 'This leaf is very plucked'

Ex. 34. -Durational  
<sup>+</sup>Gradational  
<sup>+</sup>Completive

a. \* habin'jan haze ha'ja ha'rus b'meʃex xci ʃa'ʔa  
 'This building was destroyed during half an hour'

b. ha bin'yan haze ha'rus lgamri  
 'This building is destroyed completely'

Ex. 35. <sup>+</sup>Durational  
-Gradational

a. ze r'ove da'ruX

'This is a rifle cocked'

b. b'me{ex kol zman ha ?imu'nim haro've ha'ja

'During all the time of the training the rifle was  
da'ruX  
cocked'

Ex. 36. <sup>+</sup>Durational  
+Gradational  
+Completive

a. zot giv'ʔa xasu'fa

'This is a hill, a bare one'

b. haj'ta lxa harga'{a k'ʔilu 'ata ʔo'med ʔa'rom

'You had a feeling as if you were standing naked  
bki'kar 'dizengof btel a'viv, xa'suf lgamri, llo  
in Dizengoff Square in Tel Aviv, bare completely,  
haga'na (A.)  
Defenceless'.

Ex. 37. <sup>+</sup>Durational  
+Gradational  
-Completive

a. b'me{ex kol zman hansi'ʔa ha'jinu cxu'sim btox

'During all the time of the travelling we were packed  
ba'otobus  
tight inside the bus'

b. \* ha'jinu dxu'sim l'gamri btox ha'otobus

'We were packed tight completely inside the bus'

As mentioned in 2.21, the roots in some subclasses  
tend to group into fields according to certain meaning  
features. Here are some fields of this kind in I.A.2.:



k-r-ʔ/ɸ 535, f/p-r-m 359, m-r-t 623, t-l-ʃ 1038,  
 x-t-x 1208, ʔ/ɸ -k-r 75, ʃ-l-f 947, ʔ/ɸ -r-f 98,  
 x-c-j/ɸ 1111, x-f/p-r 1117, x-c-v 1110, x-r-t 1169,  
 s-r-t 881, m-ʃ-k 638, m-ʃ-c 637, f/p-r-ʔ/ɸ 351, h-r-s 466,  
 h-r-g 465, f/p-c-ʔ/ɸ 317,  
 n-ʔ/ɸ -l 643, x-s-m 1177, s-g-r 836, b/v-l-m 161, s-t-m 884,  
 ʔ/ɸ -t-m 118, l-ʃ-c 597, d-ʃ-s 311, ʔ/ɸ -g-r 73, x-n-k 1153,  
 s-ʃ-t 899, ʃ-t-l 993, t-k-ʔ/ɸ 1030,  
 k-b/v-r 485, t-ʔ/ɸ -n 1017.  
 r-t-m 798, c-b/v-t 211, ʔ/ɸ -ʃ-z 123, t-f/p-s 1028, l-k/x-d  
 587.

4. Subclass I.A.3.: Roots occurring with Hiph<sup>ʕ</sup>il (' ʔ '),  
 ca'coc and other Mishkalim (' ɸ ') and Hiph<sup>ʕ</sup>il (ergative).

#### Formational characteristics

For the roots r-z-j/ɸ 812 and ʃ-m-n 966 cf. p.  
 ' ɸ ' has no uniform realization. With all roots which  
 express colours, except k/x-s-f 548 and l-b/v-n 578, and with  
 no other roots, it is realized by ca'coc (these roots are  
 ʔ/ɸ -d-m 66, ʔ/ɸ -f-r 70, c-h-v 222a, k-x-l 563, ʃ-x-r 1103,  
 v-r-d 1082, v/j/ɸ -r-k 1086, z-h-v 1263 (with the latter it  
 is sometimes realized as ca'cac) ). With k/x-s-f 548 as  
 'cecec or ca'cuc and with l-b/v-n 578 as ca'cac. With  
 x-k/x-m 1120 - as ca'cac. With x-ʃ-x 1196 - as ca'cuc.  
 With ʃ-m-n 966 and r-z-j/ɸ 812 - as ca'cec and with  
 b/v-r-ʔ/ɸ 170 as ca'cic.

#### Semantic characteristics

In ergative B.P.s four roots (namely b/v-r-ʔ/ɸ 170,  
 r-z-j/ɸ 812, ʃ-m-n 966, x-k/x-m 1120) require 'ä'. All the  
 rest require 'a'.

In non-ergative B.P.s eleven roots are  $\begin{matrix} \pm\text{Durational} : \\ +\text{Gradational} \\ -\text{Completive} \end{matrix}$

$\text{ʔ}/\phi$ -d-m 65,  $\text{ʔ}/\phi$ -f-r 70, c-h-v 222a, k/x-s-f 548, k-x-l 563,  
r-z-j/ $\phi$  812, {-m-n 966, v-r-d 1082, x-k/x-m 1120, v/j/ $\phi$  -r-k  
1086, z-h-v 1263.

Four are  $\begin{matrix} \pm\text{Durational} : \\ +\text{Gradational} \\ -\text{Completive} \end{matrix}$  b/v-r- $\text{ʔ}/\phi$  170, l-b/v-n 578,

{-x-r 1003, x-{- x 1196.

One is  $\begin{matrix} -\text{Durational} \\ +\text{Gradational} \\ +\text{Completive} \end{matrix}$  : b/v-{-l 183.

#### Examples:

Ex. 38.  $\begin{matrix} \pm\text{Durational} \\ +\text{Gradational} \\ -\text{Completive} \end{matrix}$

a. hu his'm $\acute{m}$ k v b'me{ex xa'me} da'kot

'He blushed and during five minutes

hu ha'ja a'dom kmo agvani'ja

he was red like a tomato'

b. ze ta'pu $\times$  a'dom

'This is an apple a red one'

Ex. 39.  $\begin{matrix} \pm\text{Durational} \\ +\text{Gradational} \\ +\text{Completive} \end{matrix}$

a. ze 'kelev xo'le

'This is a dog sick'

b. hu ha'ja keat xo'le b'me{ex ha'xoref a'val

'He was a bit ill during the winter but

ax'jav hu kvar ba'ri 'lgamri

now he is already healthy completely'

Like some other subclasses in I.A., the roots in

I.A.3. can be organized in fields according to certain meaning features. The most conspicuous field is the one consisting of colour terms:  $\text{ʔ/} \text{d-m}$  65,  $\text{ʔ/} \text{-f-r}$  70, c-h-v 222a, k/x-s-f 548, k-x-l 563, l-b/v-n 578,  $\text{-x-r}$  1003, v-r-d 1082, v/j/  $\text{-r-k}$  1086 and z-h-v 1263. I.A.3 is the subclass of colour terms par excellence. These colour terms which do not belong to it (e.g. ka'tom 'orange', sa'gol 'purple', ta'xol 'sky blue', xum 'brown' etc.) never occur with a Binyan morph. The idea 'become orange, purple etc.' is usually expressed by a periphrastic consisting of the root  $\text{ʔ/} \text{-s-j/}$  'do' or h-j-j/ 'be' in Binyan Niph'al (niʔ'sa, nih'ja 'became') and the root denoting the colour, with its proper Mishkal. E.g.:

Ex. 40.

lif'not 'ʔerev haʃa'maim \*his'gilu/nih'ju sgu'lim  
'In the evening the sky purpled / became purple'

In fact, the forms consisting of  $\text{ʔ/} \text{-s-j/}$  and h-j-j/ and Binyan Niph'al may be regarded as variants of Hiph'il in the context of colour terms which do not occur with a Binyan morph. These forms are free variants of Hiph'il with all the roots in I.A.3.. (cf. Blanc 1957; 405-406).

5. Subclass I.A.4. Roots occurring with Hithpa'el ('  $\nearrow$  ') mcu'cac and other Mishka'lim ('  $\odot$  ') and Pi'el (ergative).

Formational characteristics

With most roots in I.A.4. '  $\phi$  ' is realized as  
mcu'cac. With the rest it has no uniform realization:

Roots

Mishkal or Binyan

realizing '  $\phi$  '

$\text{?}/\phi$  -k-m 19, c-m-k 236,

c-f-f 219, f/p-n-j/ $\phi$  348,

g-l-j/ $\phi$  422, h-d-k 457,

h-m-m 464, k-c-c 490,

ca'cuc

k-f-f 503, k- $\}$ -r 555,

m-r-t 622, m-t-n 635,

n-f/p- $\text{?}$  674, r-k- $\text{?}/\phi$  770,

$\}$ -t- $\text{?}$  994,  $\}$ -z-f 1011.

k-c-r 493, x-d- $\}$  1115,

x-z-k 1219, j-k-r 1238,

ca'cac

j- $\}$ -r 1243.

$\text{?}/\phi$  -j-f 53, m-l- $\text{?}/\phi$  615,

j-b/v- $\}$  1129.

ca'cec

$\text{?}/\phi$  -g-l 15, k-r-v 545,

ca'coc

t-h-r 1029, j-t-m 1246.

n-k-j/ $\phi$  691, j- $\text{?}/\phi$  -l 1225.

ca'cic.

k-r-r/ $\phi$  540, r-b-j/ $\phi$  752,

cac

x-d-d/ $\phi$  1192, x-m-m/ $\phi$  1149

$\text{?}/\phi$  -d-j/ $\phi$  11, g-j/ $\phi$  -r 448

cec

r-f-f 763, {-n-j/ 965

co'cec

7/q -f/p-s 13.

'cecec

With the root g-l-j/ 422 ' ɸ ' is sometimes realized as mcu'cac. In some contexts there is a slight difference of meaning between this root with ca'cuc and the same root with mcu'cac. The former sometimes means "be disclosed (a secret etc.)" whereas the latter means "be exposed, bare (a physical object)".

The root n-f/p- 764 can also occur with mcu'cac, with a slightly different meaning: "be inflated, blown up (a balloon etc.)".

7/q -g-l 157 can also occur with mcu'cac, with a slightly different meaning: "rounded" (with ca'coc it means "Round").

Mishkal co'cec is identical in form to the present participle active of Pa'al.

With each of the rest of the roots ' ɸ ' is realized by a different Mishkal: b-h-m 147 - cce'ca (in the environments of many roots this Mishkal is the feminine variant of ca'cec); g-m-d 423 - ca'cac (this Mishkal is different from the Mishkal ca'cac that occurs with k-c-r 493, x-d- 1115 etc. (cf. above), in that the latter varies in form according to gender and number, whereas the former is invariable), k-d-r 499 - ca'cuc (similarly to ca'cac, this Mishkal is different from the Mishkal ca'cuc that occurs with c-f-f 219, c-m-k 236 etc. (cf. above) in that the latter varies according to gender and number whereas the former is invariable), n-c-r 659 - coc'ci;

r-g-} 678 - nic'cac (identical in form to the present tense variant of Binyan Niph'al); }-k-r 942 - ci'coc; j-c-v 1233 - ca'cic (as in the case of g-m-d 423 and k-d-r 499, this Mishkal is to be distinguished from the Mishkal ca'cic that occurs with n-k-j/ 691 etc. (cf. above) in that the latter varies according to gender and number whereas the former is invariable), j-h-d 1237 - ccu'ci.

With the roots ?/ Ɔ -f/p-s 13, b-h-m 147, g-m-d 423 and k-d-r 499 the Mishkal realizing ' Ɔ ' can take the suffix -i (in the case of ?/ Ɔ -f/p-s 13 and b-h-m 147 this involves certain automatic variations in the Mishkal, which do not concern us here). This has the effect of modifying the meaning of the predicator from 'be such and such' to 'have the characteristic features of such and such'. '?efes 'nought' becomes ?af'si 'insignificant, worthless'; ka'dur 'a ball' becomes kadu'ri 'spherical' etc. With these roots the forms realizing ' Ɔ ' are sometimes the bare Mishkalim and sometimes the Mishkalim with the suffix -i.

Ex. 41.

a. im ti'sa? a'xora hamis'par al mad hamhirut  
'If you drive backwards the number on the speedometer  
it ?a'pes (je ?a'se '?efes)  
will zero down (become zero)'

b. ba{a'nim haaxro'not ha'?erex }el hate'?orja  
'In the last years the value of this theory  
hazot ma'ma{ hit? a'pes (nih'ja ?af'si)  
literally nullified (became null, worthless)'

Semantic characteristics

In ergative B.P.s eighty nine roots require 'a',  
 forty six roots require 'ã' and nineteen roots take either  
 a direct or an indirect agent.

In non-ergative B.P.s two roots are +Durational  
 -Gradational:

ʔ/ø -l-f 21, g-j-s 449.

Seven roots are +Durational : ʔ/ø -j-f 53, h-m-m 464,  
 +Gradational  
 -Completive

g-r-j/ø 441, l-b-n 577, l-b-j/ø 582, r-g-} 768, x-m-m 1150

+Durational  
 There are no +Gradational roots.  
 +Completive

Fourteen roots are -Durational : ʔ/ø -f/p-s 13 (with  
 -Gradational  
 'cecec for ' ø '), b-h-m 147 (with cce'ca for ' ø '),  
 b/v-t-l 189, f/p-c-c 319, f/p-c-j/ø 321, g-l-j/ø 422,  
 g-m-d 423 (with ca'cac for ' ø '), g-} -r 444, g-j/ø -r  
 448, k-d-r 499, r-t-k 797 (with ca'cuc for ' ø '), s-v-g  
 888, }-n-n 975, j-t-m 1246. (with ca'coe for ' ø ').

Twenty two roots are -Durational :  
 +Gradational  
 +Completive

ʔ/ø -c-v 8, ʔ/ø -d-j/ø 11, b/v-k-ʔ/ø 150, b/v-}-l 132,  
 b/v-j-t 201, f/p-r-r 360, f/p-r-} 366, f/p-t-x 387, g-m-d  
 423 (with caca'ci for ' ø '), g-r-d 432, k-c-c 490, k-d-r  
 499 (with cacu'ci for ' ø '), k-l-f 508, n-p-c 695,  
 n-x-m 728, r-k-ʔ/ø 770, r-s-k 788, s-l-f 850, s-n-n 867,  
 s-r-s 880, z-k-k 1268.

There are no -Durational roots.  
 +Gradational  
 -Completive

Twenty roots are  $\begin{matrix} \text{+Durational} \\ \text{-Gradational} \end{matrix}$  :  $\text{?/}\phi$  -f/p-s 13

(with cac'ci for '  $\phi$  '),  $\text{?/}\phi$ -g-d 14,  $\text{?/}\phi$ -g-l 15 (with mcu'cac for '  $\phi$  '), c-l-v 230, c-r-f 243, f/p-n-j/ $\phi$  348, g-b-v 403, k-m-m 517, n-c-r 659, r-t-~~x~~ 801, s-d-r 826, s-n-f 865, s-p-~~x~~ 874,  $\{-$ b-c 920,  $\{-$ k-n 941,  $\{-$ m-r 968, v-s-t 1095, x-l-l 1136, x-t-n 1203, j-h-d 1237.

Thirty three roots are  $\begin{matrix} \text{+Durational} \\ \text{+Gradational} \end{matrix}$  :

$\text{?/}\phi$ -b-n 6,  $\text{?/}\phi$ -g-l 15 (with ca'coc for '  $\phi$  '),  $\text{?/}\phi$ -r-j/ $\phi$  45,  $\text{?/}\phi$ -~~x~~-d 49,  $\text{?/}\phi$ -~~x~~-j/ $\phi$  52,  $\text{?/}\phi$ -z-n 59, b/v-r-r 174, b/v-s-s 181, f/p-c-~~x~~ 329, f/p-r-k 358, f/p-j-s 390, f/p-j-~~x~~ 391, g-l-j/ $\phi$  422, k/x-s-j/ $\phi$  551, l-k-d 585, m-l- $\text{?/}\phi$  615, m-r-t 622, n-k-j/ $\phi$  691, n-t-k 715, r-s-n 789, r- $\{-$  794, s-v-v 892,  $\{-$ l-v 958,  $\{-$ n-j/ $\phi$  976,  $\{-$ t-k 990,  $\{-$ t-~~x~~ 994, t-h-r 1029, x-d-d/ $\phi$  1112, x-s-n 1178, x- $\{-$ l 1185, j- $\text{?/}\phi$  - $\{-$  1228, j-b/v- $\{-$  1229, j-c-v 1233, j- $\{-$ r 1243.

Fifty eight roots are  $\begin{matrix} \text{+Durational} \\ \text{+Gradational} \\ \text{-Completive} \end{matrix}$  :

$\text{?/}\phi$  -b-k 3,  $\text{?/}\phi$ -k-m 19,  $\text{?/}\phi$ -~~x~~-d 49,  $\text{?/}\phi$  -l-j/ $\phi$  25,  $\text{?/}\phi$  -r-j/ $\phi$  45, b/v-c-r 134, b-h-m 147 (with cec'ci for '  $\phi$  '), b/v-l-l 160, b/v-z-j/ $\phi$  203, c-f-f 219, c-m-k 236, d-r-g 296, f/p-l-g 338, f/p-r-d 356, f/p-s-k 374, f/p-t-l 381, f/p-t-m 382, f/p-z-r 396, g-v-n 446, h-d-k 457, k/x- $\text{?/}\phi$ -r 470, k-b-c 475, k-c-r 493, k-f-f 503, k-m-t 518, k/x-n-s 523, k-p-l 530, k-p-~~x~~ 532, k-r-r/ 540, k-r-v 545, k- $\{-$ r 555, l-k-t 589, m-t-n 635, n-f/p-~~x~~ 674, n-k-v 689, n-p-~~x~~ 698, r-p-t/ 752, r-f-f 763, r-k-z 778, r-m-m 781, r-p-t 787, s- $\text{?/}\phi$ -f 813, s-b-x 823, s-d-r 830,  $\{-$ k-r 942,  $\{-$ m-n 967,  $\{-$ p-r 981,  $\{-$ z-f 1011, t-n-f 1045, x-d- $\{-$  1115, x-l-k 1135, x-m-m/ $\phi$  1149, x-z-k 1219, j- $\text{?/}\phi$ -l 1205, j-kor 1238, z-h-m 1260, z-~~h~~-m 1293.



Ex. 42. +Durational  
-Gradational

a. b'me}ex {a'lo} da'kot hu ha'ja m?u'laf

'During three minutes he was in a faint'

b. \* hu ha'ja m?u'laf m?od

'He was in a faint very'

Ex. 43. +Durational  
+Gradational  
-Completive

a. 'ele rga'?im {enir'?im lxa k {a'?ot

'These are minutes which seem to you like hours:

a'ta me'rim et ha ro} , kul'xa ha'mum,

you raise your head, all stunned,

v mista'kel im a'ta od xai (A.)

and look if you are still alive'

Ex. 44. -Durational  
-Gradational

a. \* hari'mon haze ha'ja mfu'cac b'me}ex k'?eser da'kot

'This grenade was blown up during about ten  
minutes'

b. \* hari'mon haze mfu'cac m?od

'This grenade is blown up very'

Ex. 45. -Durational  
+Gradational  
+Completive

a. \* ha 'orez mam'}ix lih'jut mvu }al

'The rice continues being cooked up'

b. hu hi'gi} lo et hata'puz mku'laf ad

'He presented him the orange peeled to

ha'sof

the end [= completely]'

Ex. 46.   <sup>+</sup>Durational  
          -Gradational

- a.   b'me}ex   }ni'jot   mea'tot   haxara'vot   ha'ja mcula'vot  
      'During a few       seconds   the swords were   crossed'  
b.   hag}a'rim   ha'ele   mcula'vim  
      'These bridges       are crossed'

Ex. 47.   <sup>+</sup>Durational  
          +Gradational  
          +Completive

- a.   ze   od   nim'}ax. k}a'vu? ?axrei   ha   milxa'ma  
      'This still went on about a week after the war  
      v   b'me}ex   kol   hazman   haze   ha'jiti   mnu'tak  
      and during       all       that       time       I was detached  
      me   hazi'ra   }el   ha'?oref (A.)  
      from the stage of the rear'  
b.   kol   hak}a'rim   hatele'foniim       im   hama'kom   haze  
      'All   the       telephonic connections with this place are  
      mnu'ta'kim   laxalu'tin  
      disconnected completely'

Ex. 48.   <sup>+</sup>Durational  
          +Gradational  
          -Completive

- a.   b'me}ex   kol   hatku'fa   hazot   ha'jinu  
      'During   all   this period       we were  
      mruka'zim   bamex'ne   (A.)  
      concentrated in the camp.'  
b.   \*   ha'jinu   mruka'zim   }am l'gamri  
      'We were concentrated there completely'

Fields of roots according to meaning features:

g-b-v 403, l-k-t 589, k/x-n-s 523, k-b-c 475, c-f-f 219,  
r-k-z 778, ?/φ-g-d 14, ?/φ-κ-d 49, l-k-d 585, ?/φ-κ-j/φ 52,  
c-r-f 243, g-}-r 444, r-t-k 797, }-b-c 920, }-l-v 958,  
?/φ-r-j/φ 45, b/v-l-l 160, ?/φ-r-j/φ 45, s-b-x 823, s-m-f  
865, s-p-κ 874, k-}-r 555.

n-p-c 695, r-s-k 788, f/p-c-κ 358, f/p-r-r 360,  
f/p-r-d 356, f/p-l-g 338, s-r-g 888, s-?/φ-f 813, x-l-k 1135,  
f/p-c-κ 320, f/p-c-c 319, n-t-k 715, k-c-c 490, f/p-s-k 374,  
b/v-k-?/φ 150.

x-l-l 1136, s-l-f 850, k-p-κ 532, k-m-t 518, r-p-t  
787, k-l-f 508, g-r-d 432, m-r-t 623, n-k-v 689, k-f-f 503,  
s-r-s 880.

l-b-j/φ 582, l-b-n 577, f/p-r-} 366, g-l-j/φ 422,  
k/x-s-j/φ 551, f/p-n-j/φ 348, t-h-r 1029, n-k-j/φ 691,  
z-k-k 1268.

x-l-l 1136, ?/φ-b-k 3, ?/φ-c-v 8, }-m-n 967,  
f/p-j-κ 391, t-n-f 1045, z-h-m 1260.

h-d-k 457, b/v-s-s 181, ?/φ-b-n 6, ?/φ-z-n 59,  
b/v-c-r 134, }-p-r 981, x-s-n 1178, x-}-l 1185, x-z-k 1219,  
j-c-v 1233.

6. Subclass I.A.5.: Roots occurring with Hithpa'el ('↑'),  
Pa'al and certain Mishkalim ('Φ') and Hiph'il  
(ergative).

Formational characteristics 'Φ' has no uniform realization:

Roots Mishkal or Binyan realizing 'Φ'

?/φ-r-x 104, m-r-d 620,

}-h-j/φ 933, }-l-t 956,

Pa'al

}-t-k 931, v/j/φ-}-v 1096.

ʔ/ø -c-v 65, c-r-d 241,  
n-m-x 694, k-r-ʃ 542, ca'cuc  
r-ʒ-v 800, z-k-f 1266.

ʔ/ø -m-k 87, ʔ/ø -r-x 105, ca'coc  
k-r-v 544, r-x-k 808

b/v-r-g 172, r-g-z 1769, mcu'cac  
s-v-v 892, ʃ-b-x 924

g-b-r 404, r-k-v 776, muc'cac  
ʃ-x-l 1007, x-l-f 1130

ʔ/ø -r 115, b/v-h-r 149, ca'cic  
r-g-l 765.

k-h-l 504, k-t-n 560, ca'cac  
r-x-v 811

k/ʃ-j/ø 557, ʃ-v-j/ø 999, ca'cec  
z-k-n 1270.

k-r-x 547, x-r-ʃ 1167 ce'cec

ʔ/ø -r-r/ø 39 cec

l-h-v 584 nic'cac

k-c-f 431 'cecec

With the root r-x-k 808 'ø' is also realized as mcu'cac.

Mishkal muc'cac is identical to the passive perfect participle

Mishkal of Binyan Hoph'al. The root k-c-f 491 can also be realized with ca'cuc, with the meaning 'foamy' (the meaning with 'cecec is 'foam'.)

### Semantic characteristics

In ergative B.P.s twenty two roots take 'a' and eighteen take 'ă' (altogether - forty roots). Among those which take 'a' five, (k-r-v 544, k-{-j/φ 557, r-x-k 808, {-h-j/φ 933 and v/j/φ -{-v 1096) take either animate or inanimate values for 'n', that is, these five roots can in some contexts be interpreted as indirect agentive.

In non-ergative B.P.s seven roots are +Durational :  
-Gradational

?/φ -r-r/φ 39, 2/φ -r-x 104, m-r-d 620, {-h-j/φ 933, {-l-t 956, {-t-k 991, v/j/φ -{-v 1096.

Four roots are +Durational : ?/φ -c-v 65,  
+Gradational  
-Completive

g-b-r 404, r-g-z 769, l-h-v 584.

Notice that all the roots which occur with Binyan Pa'al in I.A.5. are +Durational and that besides these only five -Gradational roots in I.A.5 are +Durational. I shall return to this point further below.

Three roots are -Durational : k-c-f 491, k-h-l 504  
-Gradational  
and s-r-v 892.

One is -Durational : z-k-n 1270.  
\*Gradational  
-Completive

Eight are +Durational : b/v-h-r 149, b/v-r-g 172, k-r-} 542,  
+Gradational  
+Completive

k-r-x 547, r-t-v 800, {-v-j/φ 999, x-r-} 1167, z-k-f 1266,

Fourteen are <sup>+</sup>Durational : ʔ/φ-m-k 87, ʔ/φ-r-x 105,  
 +Gradational  
 -Completive

ʔ/φ - r 115, c-r-d 241, k-c-f 491, k-r-v 544, k-}-j/a 557,  
 k-t-n 560, n-m-x 694, r-g-l 764, r-ʔ-k 808, r-ʔ-v 811,  
 }-b-ʔ 924.

Three are <sup>+</sup>Durational : r-k-v 776, }-ʔ-l 1007, x-l-f 1130.  
 -Gradational

Ex. 49. <sup>+</sup>Durational  
 -Gradational

a. ba ʔa'me et harga'im hari}o'nim }eja'}avnu  
 'In the first five minutes that we were sitting  
 lea'xar hafsa'kat hahistaʔ'rut, ʔa'}avnu maʔa'sinu(A.)  
 after the stopping of the storming, we were thinking  
 what we had done'

b. \* hu ja'}av mʔod  
 'He was sitting very'

Ex. 50. <sup>+</sup>Durational  
 +Gradational  
 -Completive

a. beo'to ha'regaʔ hu ha'ja meod nir'ga} (A.)  
 'At that moment he was very excited'

b. \* hu ha'ja nir'ga} l'gamri  
 'He was excited completely'

Ex. 51. <sup>+</sup>Durational  
 +Gradational  
 +Completive

a. hu ja'}av ʔa'kuf kol haz'man vma'}ax et  
 'He was sitting upright all the time and pulled  
 ha'tankim aʔ'rav (A.)  
 the tanks behind him'.

b. hu ba'xur ʔa'kuf, legamri ʔa'kuf  
 'He is a boy upright, completely upright'

Ex. 52.    <sup>+</sup>Durational  
           +Gradational  
           -Completive

a. \*    ha'sefer    haze    ka'tan    l'gamri  
          'This        book is small    completely'

b.        zot        'ʔerec    ʔaʕi'ra  
           'This is a country rich'

It will be observed, that the roots occurring with Pa'ʕal, and perhaps all the +Durational roots in I.A.5. are rather exceptional in I.A.5., since most roots in this subclass are -Durational. On the other hand, these roots exhibit all the features of I.A.1, except the fact that the Binyan realizing ' ʔ ' with them is Hithpa'ʕel rather than Niph'ʕal: Firstly, roots in Pa'ʕal (realizing ' ʕ ') occur in I.A. (except among the +Durational roots in I.A.5) only in I.A.1.. Secondly, as in I.A.1. the +Durational roots in I.A.5 occur in Pa'ʕal or a Mishkal, Hiph'ʕil and (in passive formations) Hoph'ʕal. Thirdly, like most +Durational roots in I.A.1., the majority of +Durational roots in I.A.5 are -Gradational, and those that are +Gradational denote a mood or a state of mind. The great majority of roots in I.A.5 are not Durational. Among the -Durational or <sup>+</sup>Durational roots in this subclass only k-h-l 504, r-k-v 776, s-v-v 892, ʕ-ʕ-l 1007 and x-l-f 1130 are -Gradational, and among the +Gradational no one denotes a mood or a state of mind. To sum up, +Durational roots are, as it were, "out of place" in I.A.5, and belong properly with I.A.1.

The root b/v-h-r 149 is exceptional in I.A. (along with 1068 and 1271) in that it requires a "content object" (cf. p. 148).

Some speakers use the root  $\int$ -h-j/ɤ 933 with Binyan Hithpa'el as a synonym for the same root with Pa'al. For these speakers the Aktionsart contrast ' $\{\textcircled{\text{A}}\}$ ' is irrelevant to  $\int$ -h-j/ɤ 933.

When Hithpa'el is used with  $\int$ -h-j/ɤ 933 as the realization of ' $\text{A}$ ', the meaning of the whole form is equivalent to 'the stay was longer than expected'. In order to see that Hithpa'el in hi $\int$ ta'ha can be interpreted as the realization of ' $\text{A}$ ' one has to take into account the idea "contrary to expectation" which is incorporated in this form.

Ex. 53.

hu kvar ha'ja carix lih'jot kan aval hu  
'He already should be here but he  
hi $\int$ ta'ha ba'ir meal lamcu'pe  
has been delayed in the city longer than expected'

The meaning of hi $\int$ ta'ha in Ex. 53 can be construed as 'switch over unexpectedly into a new period of staying; cancel an expected departure'.

A similar analysis may be applied to the root ʔ/ɤ -r-x 104.

Ex. 54.

big'lal tna'ei 'mezeg haa'vir hati'sa hitʔar'xa  
'Because of the weather conditions the flight prolonged  
bæci ʔa'ʔa  
by half an hour'



Table 4: The meaning Features of the roots in I.A., according to individual Features.

Features subclass	3	2	either direct on indirect agentive	+ Dur.	- Dur.	+ Dur.	+ Grad.	- Grad.	+ Grad.	- Grad.	Total
I.A.1.	10	10	7	7	4	9	4	2	14	20	
I.A.2.	2	72	-	-	35	39	3	18	53	74	
I.A.3.	6	11	-	-	1	16	11	5	-	16	
I.A.4.	46	108	19	9	36	112	65	56	36	157	
I.A.5.	18	22	5	11	4	24	18	8	13	39	
Total	81	224	31	27	80	200	101	89	116	306	

Table 5: The meaning Features of the roots in I.A., according to clusters of Features.

Features subclasses	+ Dur.		+ Dur.		+ Dur.		+ Dur.		+ Dur.		+ Dur.		+ Dur.		+ Dur.		+ Dur.		+ Dur.		+ Dur.		Total
	- Grad.	+ Grad.	+ Grad.	+ Grad.	- Grad.	- Grad.	- Grad.	+ Grad.	+ Grad.	+ Grad.	- Grad.	+ Grad.	+ Grad.	+ Grad.	- Grad.	+ Grad.	+ Grad.	+ Grad.	- Grad.	+ Grad.	+ Grad.	- Grad.	
I.A.1	6	-	-	1	3	1	1	-	5	1	3	1	1	1	1	1	1	1	1	1	1	1	20
I.A.2	-	-	-	-	27	8	-	-	26	10	3	-	-	-	-	-	-	-	-	-	-	-	74
I.A.3	-	-	-	-	-	1	1	-	-	4	11	-	-	-	-	-	-	-	-	-	-	-	16
I.A.4	2	-	-	7	14	22	20	-	34	58	157	-	-	-	-	-	-	-	-	-	-	-	157
I.A.5	7	-	-	4	3	-	3	1	8	13	39	-	-	-	-	-	-	-	-	-	-	-	39
Total	15	-	-	12	47	32	54	1	57	88	306	-	-	-	-	-	-	-	-	-	-	-	306

Ex. 55. hami'jun ca'rix lhiga'mer ha'erev, a'val  
 'The sorting out is due to terminate this evening, but  
 ze ?a'lul lhihpa'rex koat  
 it can prolong a bit'

Here the meaning of  $\text{?a} - r - x$  104 plus Hithpa'el is 'last longer than expected, switch over into a new stage of, cancel its expected termination'. Admittedly, the above analysis is of a speculative nature. Granted this, however, it seems to me to be a rather plausible speculation. (cf. the discussion concerning the roots m- $\{-x$  630 and  $\{-\text{?a} - r$  917 in p. 193 ).

#### 7. Summary: the meaning features of roots in I.A..

The observations concerning semantic features in I.A. are summarized in tables 4 and 5, pp. 172-3. If one looks at the ergative B.P.s section in table 4, one sees that the overwhelming majority of roots in I.A.2 and I.A.4 take 'a'. This proportion is not altered significantly if 'a'-roots which in some circumstances take an indirect agentive are counted as 'ä'-roots. On the other hand I.A.1, I.A.3 and I.A.5 have a high proportion of 'ä'-roots. Furthermore, if 'a'-roots that can in some contexts take an indirect agentive are counted as 'ä'-roots, then each of the latter subclasses, except I.A.3, may be viewed as having a majority of 'ä'-roots. This is correlated with the fact that roots in I.A.1, I.A.3 and I.A.5 take Hiph'il in ergative formations, whereas the other roots in the other subclasses take other Binyanim in such formations (I.A.2 take Pa'al and I.A.4 - Pā'el). It may be concluded that in ergative formations all the

Binyanim except High'il tend to occur with 'a'-roots.

As concerns non-ergative B.P.s, table 4. indicates that I.A.1 and I.A.2 include a high proportion of -Gradational roots (14 out of 20 in I.A.1 and 53 out of 74 in I.A.2). and in I.A.2 most +Gradational roots (18 out of 21) are +Completive. On the other hand, I.A.3, I.A.4 and I.A.5 include a high proportion of +Gradational roots, and among the latter there is a clear majority of -Completive roots (In I.A.3 there are no -Gradational roots and eleven out of sixteen roots are -Completive. In I.A.4 121 out of 157 are +Gradational, among them 65 -Completive. In I.A.5 26 out of 39 are +Gradational, among them 18 -Completive).

A clear differentiation between I.A.1 and I.A. 2 on the one hand and all the other subclasses on the other hand marks itself also when the feature Durational is under consideration. All the subclasses have a high proportion of  $\pm$ Durational roots. This is the dominant feature in I.A.. However, I.A.1 and I.A.2 have also a high proportion of +Durational and -Durational roots. I.A.1 have 7 +Durational roots (if the +Durational roots in I.A.5 are regarded as -Gradational belonging to I.A.1 (cf. p.170 ) then the latter has 14 +Durational roots) along with 9  $\pm$ Durational roots. I.A.2 has 35 -Durational roots along with 39  $\pm$ Durational roots. All the other subclasses, on the other hand, have a relatively low proportion of +Durational or -Durational roots (I.A.3 has non+Durational and only one -Durational out of a total of 16. I.A.4 has only nine +Durational and 36 -Durational out of a total of 155 I.A.5 has 11 +Durational (and if the +Durational roots are regarded as part of I.A.1 (cf. p.170), then -Gradational

only 4 +Durational roots) and 4 -Durational, out of a total of 39.

There is then a clear differentiation in terms of meaning features between the roots which occur with Niph'al (realizing ' ʔ ') and (predominantly) Pa'al or ca'cuc (realizing ' ʕ ') on the one hand, and roots which take Hiph'il or Hithpa'el (realizing ' ʔ ') and (predominantly) mcu'cac or ca'coc (realizing ' ʕ ') on the other hand.

The same differentiation exhibits itself also when the features are arranged as they are in table 5. In each of the three subclasses I.A.3, I.A.4 and I.A.5 the highest relative frequency is of <sup>+</sup>Durational roots, and the next <sup>+</sup>Gradational <sup>-</sup>Completive

highest relative frequency is of <sup>+</sup>Durational roots. In <sup>+</sup>Gradational <sup>+</sup>Completive

both I.A.1 and I.A.2, on the other hand, <sup>+</sup>Durational <sup>+</sup>Gradational <sup>-</sup>Completive

<sup>+</sup>Durational <sup>+</sup>Gradational <sup>+</sup>Completive roots have a very low relative frequency

(3 <sup>+</sup>Durational <sup>+</sup>Gradational <sup>-</sup>Completive roots in I.A.1, out of a total of 20 and

3 in I.A.2, out of a total of 74; only one <sup>+</sup>Completive <sup>+</sup>Durational <sup>+</sup>Gradational <sup>+</sup>Completive and 10 in I.A.2.). The highest relative frequency in I.A.1/2 of <sup>+</sup>Durational roots, and in I.A.2 of <sup>-</sup>Durational <sup>-</sup>Gradational

and <sup>+</sup>Durational roots. Roots with the latter meaning features <sup>-</sup>Gradational

come next in terms of relative frequency in I.A.1. On the

other hand, I.A.3 has no <sup>+</sup>Durational roots and no <sup>+</sup>Durational <sup>-</sup>Gradational

roots. I.A.4 has only two <sup>+</sup>Durational roots and 19 <sup>+</sup>Durational <sup>-</sup>Gradational

roots out of a total of 39 (but these, as mentioned in p. 170

may perhaps be regarded as properly belonging with I.A.1)  
and 3 <sup>†</sup>durational roots.  
-Gradational

Notice that no roots in I.A. imply the features

+Durational  
+Gradational  
+Completive.      One wonders whether this is just a characteri-  
stic of roots in I.A. in C.I.H. or a more general phenomenon.  
It seems that the feature +Durational contradicts the combina-  
tion of features +Gradational as "durativity" may be  
+Completive  
incompatible with "finality of gradation". Notice also  
that there is only one -Durational root (out of a total of  
+Gradational  
-Completive

305).

Fifteen roots in I.A. are +Durational . Among these  
-Gradational

only three (ʔ/ɸ-l-f 21, ʔ/ɸ -r 39, g-j-s 449) occur with a Mishkal as the realization of ' ʕ '. The rest occur with Pa'ʕal. In the whole of I.A.1 there is only one root which occurs with Pa'ʕal as the realization of ' ʕ ' and does not imply +Durational, namely s-ʔ/ɸ-r 815, a +Durational -Gradational +Gradational -Completive

root). It may be concluded, that there is almost a one-to-one correspondence between +Durational roots in I.A. and -Gradational

Binyan Pa's'al as the realization of '  $\phi$  ' in non-ergative formations.

In order to stress the partial correspondence between certain semantic features implied by roots in I.A. and certain Binyanim and Mishkalim in non-ergative formations, let me replace the labels I.A.1 and I.A.2 by the labels +D and -D respectively, and the labels I.A.3, I.A.4 and -G -G

I.A.5 by the single label  $\begin{smallmatrix} +D \\ +G \\ -C \end{smallmatrix}$ . It should be emphasized

that these are mere labels, and have nothing to do with any decision procedure assigning Binyanim and Mishkalim to their appropriate roots. Such decision procedures are provided exclusively by formation rules (cf. Lyons 1966:210f and p.134 in this thesis).

2.3. I.B.: -Dynamic roots with  $\{\phi\}$ , where '  $\nearrow$  ' is realized by a form other than a Binyan.

1. I.B.1. In both non-ergative and ergative B.P.s

The only difference between I.A. and I.B. is that in the former '  $\nearrow$  ' is realized by a Binyan, whereas in the latter it is in most cases realized by the root h/j-j/ in Binyan Niph'al or, alternatively, by the root  $\text{?}/\phi$  -s-j/ in Binyan Niph'al (cf. p.219). These two auxiliary forms are synonymous. They can be translated into English as 'become, turn into'. The auxiliary precedes the main root of the predicator. The root occurs with a Mishkal (or, in the case of some roots, with Binyan Pa'al).

Ex. 56.

a. ha 'setax ha ?el'jon {el ha {ul'xan

'The surface the top one of the table

{  
ih'je  
will be  
hu  
is  
ha'ja  
was

xa'lak (root x-l-k Mishkal ca'cac)  
smooth '

b. ha 'setax ha ?el'jon {el ha {ul'xan

'The surface the top one of the table

je ʔ a'se	
will become	
nih'je (niʔ 'se)	xa'lak
is becoming	smooth'
nih'ja (niʔ 'sa)	
became	

c. ha na'gar hix'lik [= ʔa'sa xa'lak] et ha  
 'The carpenter made smooth the  
 'etax ha ʔel'jon ʃel ha ʃul'xan (ergative)  
 surface the top one of the table'

Notice that in Ex. 56.a. the copula (in the present tense - homophonous with the 3rd masc. sg. personal pronoun hu; in the past and future tenses - consisting of the root h-j-j/ϕ (to be) with Pa'ʃal) interposes between ʃul'xan and xa'lak. The form consisting of h-j-j/ϕ or ʃ-s-j/ϕ and Binyan Niph'ʃal in Ex. 56.b. can also be regarded as the copula. ha'ja and nih'ja (and the corresponding forms in the other tenses) contrast with each other in exactly the same way as, say, ʔa'mad and niʔ'mad in I.A.1. Binyan Pa'ʃal in ha'ja realizes 'ϕ' and Binyan Niph'ʃal in nih'ja realizes 'ʔ'. The only difference between ha'ja - nih'ja and ʔa'mad-niʔ'mad is that in the former the root h-j-j/ϕ is not an integral part of the predicator. That is, it is not a lexical element in its own right. It is just (one variant of) the copula, a part of the formations realizing the B.P., not a part of the B.P. itself.

In the future tense, only ʔ/ϕ -s-j/ϕ can occur with Niph'ʃal as the realization of 'ʔ'. h-j-j/ϕ is excluded.



In ergative B.P.s with the variable 'a' the root  $\text{ʔ}/\phi\text{-s-j}/\phi$  in Binyan Pa'ʕal can usually replace the Binyan with which the main root would otherwise occur. In this case the root will take a Mishkal. Cf. Ex. 56.c.

It is probably not a coincidence that the same root,  $\text{ʔ}/\phi\text{-s-j}/\phi$ , is used both for this purpose, and as a variant of the copula.

In I.A., too, constructions like  $\text{niʔ'sa}$  ( $\text{nih'ja}$ )  $\text{xa'lak}$  can in many, though not all, cases optionally replace forms consisting of a root and a Binyan realizing 'ʔ' in non-ergative formations, and constructions like  $\text{ʔa'sa xa'lak}$  - a root and a Binyan in ergative formations.

Ex. 57.

- a.  $\text{hasa'din hitka'met} / \text{nih'ja mku'mat}$  (root  
'The sheet creased / became creased k-m-t 518)
- b.  $\text{haʔei'naim} \left\{ \text{elo niʔc'mu} / * \text{nih'ju ʔcu'mot} \right.$   
'His eyes closed / became closed'  
(root  $\text{ʔ}/\phi\text{-c-m}$  62)

Both k-m-t 518 and  $\text{ʔ}/\phi\text{-c-m}$  62 are I.A. roots.

With a small number of roots in I.A. 'ʔ' is optionally realized not by  $\text{ʔ}/\phi\text{-s-j}/\phi$  or  $\text{h-j-j}/\phi$  and Niph'ʕal, but by different forms. With  $\text{ʔ}/\phi\text{-m-d}$  86,  $\{-k/x-v$  945 and  $v/j/\phi\text{-}\}$ -v 1096 (all three are +Durational, take Pa'ʕal as the realization -Gradational

of 'ʔ' and denote body positions) 'ʔ' can be realized by the root  $\text{ʔ}/\phi\text{-v-r}$  (change, switch) in Pa'ʕal, followed by the preposition l-. The main root takes the verbal noun Mishkal of Binyan Pa'ʕal (cf. Table 3, p. 16).

Ex. 58.

- $\text{ta'gid laplu'ga lhitja'ʕev} / \text{laʔ'vor l jʕi'va}$   
'Tell the squadron to sit down/ to switch to sitting'

With the roots b-h-m 147, g-m-d 423, k-d-r 499, n-c-r 659, j-h-d 1237 (all -Durational ) '  $\nearrow$  ' can be realized -Gradational

by the root h-f-x ('turn, become') in Niph'al, followed by the preposition l-. The main root occurs with a Mishkal.

Ex. 59.

hu nih'fax lga'mad  
'He turned into a dwarf'

In I.B.1, with three roots, k/x-r- $\text{ʔ}/\phi$  536, r-b/v-c 754 and x-n-j/ $\phi$  1156, again +Durational roots occurring -Gradational with Pa'al realizing '  $\phi$  ', '  $\nearrow$  ' is realized in exactly the same way as with  $\text{ʔ}/\phi$ -m-d 86,  $\int$ -k/x-v 945 and v/j/-v-124 1096 in I.A. (cf. above). The roots k/x-r- $\text{ʔ}/\phi$  536 and r-b/v-c 754 occur in non-ergative B.P.s only (cf. 2.3.2.).

Ex. 60.

hem  $\text{ʔ}$ av'ru lxana'ja  
'They switched to camping'

With another +Durational root, m-l-x 616 (occurring with -Gradational

Pa'al realizing '  $\phi$  '), '  $\nearrow$  ' is realized by the root  $\text{ʔ}/\phi$ -l-j/ $\phi$  ('rise') in Binyan Pa'al, followed by the preposition l-. The main root occurs with Mishkal ccu'ca.

Ex. 61.

hu  $\text{ʔ}$ a'la l mlu'xa  
'He went up to kingdom'

With one  $\pm$ Durational root, x-j-j/ $\phi$  1217, '  $\nearrow$  ' is -Gradational realized by the root 'b/v- $\text{ʔ}/\phi$  in Pa'al, followed by the preposition l-. The main root occurs with cac, with the plural suffix -im.

Ex. 62.

ilma'lei hu hara?'jon haze lo ha'ja ba  
 'Was it not for him, this idea would not come  
 laxa'jim  
 to life'

With the <sup>+</sup>Durational roots v-x 1099 '  $\uparrow$  ' is  
<sup>+</sup>Gradational  
<sup>-</sup>Completive

realized by b/v- $\text{?}/\text{?}$  in Pa'al, followed by the preposition  
 b-. The main root occurs with Mishkal mcu'ca.

Ex. 63.

hu ba bmvu'xa  
 'He got confused'

With all the above-mentioned roots in I.B. '  $\uparrow$  ' has  
 no alternative realizations.

### Formational characteristics

Except the roots mentioned above, '  $\uparrow$  ' is realized  
 as  $\text{?}/\text{?}$  -s-j/ $\text{?}$  or h-j-j/ $\text{?}$  plus Niph'al with all the roots  
 in I.B.1.

'  $\text{?}$  ' has no uniform realization. With b/v-l-t  
 164, f/p-r- $\text{x}$  369, r-t- $\text{x}$  802, t-s-s 1057 and x-l 1125 it is  
 realized as the active participle Mishkal of Binyan Pa'al.  
 These roots can also occur with the finite forms of Binyan  
 Pa'al, such that tense is expressed in the very form itself,  
 not in the auxiliary h-j-j/ $\text{?}$  or in the copula.

Ex. 64.

'ze dai ba'lat / haja dai bo'let / {e hu  
 'It rather stuck out/ was sticking out/ that he  
 haja mru'gaz vm?uc'ban  
 was angry and nervous'

With k/x-b/v-d 478, r-ʔ/ø-v 750, s-b/v-ʔ/ø 816, }-k-t 944, t-r-f 1051 and j/f/p-j/ø 1236 'ø' is realized as ca'cec. With k-b-l 480, s-r-ʔ 883, t-ʔ/ø -m 1014 and v-r-k 1084 - as the active participle of Hiph'ʕil.

Ex. 65.

baja'mim hari } o'nim ha'ja 'metaʔ ga'voh,  
 'In the first days there was a high tension,  
 v hu hit'xil la'redet. nih'jeynu harbe jo'ter  
 and it started to relax. We became much more  
 }ke'tim (A.)  
 calm'

With ʔ/ø-s-k 108, k/x-l-l 510, m-l-ʔ 617, 'ø' is realized as ca'cac. With b/v-j- } 199, d-k-ʔ/ø 281 and f/p-ʔ/ø -r 316 - as me'u'cac. With ʔ/ø-r 38 and k-s-m 549 - as muc'cac. With x-l-k 1133 - as ca'cac. With z-l 1276 - as coc. With m-r-r/ø 621 - as cac. With f/p-ʔ-t 394 - as ca'coc and with n-c-ʔ 663 - as cic'ci.

In ergative B.P.s five roots (b/v-j- } 199, d-k-ʔ/ø 281, f/p-ʔ/ø -r 316, m-r-r/ø 621 and s-m-x 862), occur with Pi'ʕel. All the other roots occur with Hiph'ʕil.

#### Semantic characteristics

In ergative B.P.s all the roots that take Hiph'ʕil, except ʔ/ø -r 38, b/v-l-t 164, v-r-k 1084, k-b-l 480, k/x-l-l 510, m-l-ʔ 617, x-l 1125 and x-l-k 1133 take 'ä'. k/x-l-l 510 and x-l-c 1128 are either direct or indirect agentive. All the five roots that occur with Pi'ʕel take 'ä'.

In non ergative B.P.s 15 roots are  $\begin{matrix} +\text{Durational} \\ +\text{Gradational} \\ -\text{Completive} \end{matrix}$  :

?/ø -s-k 108, b/v-l-t 164, d-k-?/ø 281, f/p-ʔ/ø -r 316,  
f/p-r-# 369, k/x-b/v-d 478, m-l-# 617, m-r-r/ø 621,  
r-ʔ/ø -v 750, r-t-# 802, s-r-# 883, t-s-s 1057, v-r-k  
1084, j-f/p-j/ø 1236, z-l 1276.

Six roots are  $\begin{matrix} +\text{Durational} \\ +\text{Gradational} \\ +\text{Completive} \end{matrix}$  : k-b-l 480, }-k-t 944,

s-b/v-ʔ/ø 816, t-ʔ/ø -m 1014, t-r-f 1031, x-l-k 1133.

Three roots are  $\begin{matrix} +\text{Durational} \\ -\text{Gradational} \end{matrix}$  : ʔ/ø -r 38, k/x-l-l 510, x-l 1125.

One is  $\begin{matrix} -\text{Durational} \\ -\text{Gradational} \end{matrix}$  : n-c-# 663.

One is  $\begin{matrix} +\text{Durational} \\ +\text{Gradational} \\ -\text{Completive} \end{matrix}$  : k-s-m 549.

Ex. 66.  $\begin{matrix} +\text{Durational} \\ +\text{Gradational} \\ -\text{Completive} \end{matrix}$  :

a. hu ba'xur mdu'ka?  
'He is a boy depressed'

b. ku'lam kcat ʔcu'vim, a'val a'ni ha'jiti  
'Everyone is a little sad, but I was  
mdu'ka? ʔad ʔim'kei ni } ma'ti (A.)  
depressed to the depths of my soul'

Ex. 67.  $\begin{matrix} +\text{Durational} \\ +\text{Gradational} \\ +\text{Completive} \end{matrix}$

a. hu ba'xur }a'ket  
'He is a boy quiet'

b. kol ha'ʔerev hu ha'ja }a'ket l'gamri  
'All the evening he was quiet completely'

Ex. 68. <sup>+</sup>Durational :  
 -Gradational

a. b'me ex ha'boker hajiti ka'lul zmanit bplu'ga  
 'During the morning I was included temporarily in  
 the squadron

bet

No. 2.'

b. has'cena bxa'dar hamadre'got klu'la ba'perek  
 'The scene in the staircase is included in the  
 ha {e'ni

second chapter'

In terms of semantic features I.B.1 is closer to  
 the class of roots labelled <sup>+</sup>D, that is I.A.3-5 than to  
<sup>+</sup>G  
 -C

the classes of roots labelled +D and -D, that is I.A. 1-2  
 -G -G

(cf. p. 177), since, as in I.A. 3-5, most of its roots are

<sup>+</sup> Durational	or	<sup>+</sup> Durational,	only few of its roots are
+Gradational		+Gradational	
-Completive		+Completive	

<sup>+</sup> Durational	and none are	+Durational
-Gradational		-Gradational.

2. I.B.2: In non-ergative B.P. only.

As mentioned in p. 143, if a root defines a non-ergative B.P. only or an ergative B.P. only, it does not necessarily mean that it is grammatically different from a corresponding root which defines both a non-ergative and an ergative B.P.. If the roots of a class X of non-ergative-only roots take the same Aktionsart category and imply the same semantic features as the roots of a class Y of non-ergative-and-ergative roots, and if formations including the roots of X are generated by the same formation-rules as

formations including the roots of Y when the latter are non-ergative, there is no reason to distinguish between X and Y in the grammar, or, to put it more accurately, in that part of the grammar which deals with non-ergative B.P.s and non-ergative formations. The distinction between X and Y will be marked in the lexicon, however.

I.B.2 consists of a small number of roots, all define non-ergative B.P.s only. This fact is marked in the lexicon by the B.P.-types assigned to the roots. However, in grammatical terms the roots of I.B.2 belong to the same type as the roots of I.B.1.

#### Formational characteristics

I.B.2 includes thirteen roots. With three roots, b/v-h-k 145, b/v-x-l 191 and v/j/ø -ʔ/ø -l 1061, 'ø' is realized as the active participle of Hiph'ʕil. With x-l-v 1191 and z-k-k 1269 -- as ca'cuc. With all the other roots -- as the active participle of Pa'ʕal.

The roots are c-d-k 216, c-l-ʔ/ø 223, c-r-m 244, d-l-f 285, d-m-j/ø 291, f/p-z-l 395, n-c-c 653, r-ʔ/ø -ʃ 748, x-r-k 1163.

Semantic characteristics

All the roots in I.B.2 are  $\pm$ Durational  
 +Gradational  
 -Completive

Ex. 69.

a. ze 'xomer no'cec

'This is a material shining'

b. b'me {ex {tei da'kut hu pa'zal e'leha

'During two minutes he looked cross eyed at her'

### 3. The use of the finite forms of Pa'ʕal and Hiph'ʕil

All the roots in I.B. which occur with the active participle of Pa'ʕal or Hiph'ʕil are  $\pm$ Durational. The question whether such root is interpreted as +Durational or as -Durational has certain formational implications. In case such a root is +Durational '  $\Phi$  ' is realized in the past and future tense by ordinary finite forms in Pa'ʕal or Hiph'ʕil. In case the root is -Durational '  $\Phi$  ' is realized in the past and future tense by the present participle of Pa'ʕal or Hiph'ʕil. Tense and person distinction are expressed with the help of the auxiliary h-j-j/ $\Phi$  . In the present tense, however, '  $\Phi$  ' is always realized by the present participle of Pa'ʕal and Hiph'ʕil, irrespective of whether the root is interpreted as +Durational or as -Durational (cf. Ex. 69).



Table 6: The distribution of roots in I.A. and I.B. according to meaning features and the realization of 'ʔ'

Number of roots with which 'ʔ' must or can be realized by ʔ/ø-s-j/ø or h-j-j/ø plus Niph'al										Number of roots with which 'ʔ' can be realized only with Binyan										Number of roots with which 'ʔ' can be realized by forms other than Binyan or ʔ/ø-s-j/ø or h-j-j/ø plus Niph'al										
+D	-D	+D	+G	+C	+D	+G	+C	+D	-D	+D	-D	+D	-D	+D	+G	+C	+D	-D	+D	-D	+D	-D	+D	+G	+C	+D	-D	+D	+G	+C
I.A.	-	7	-	12	53	11	105	-	11	6	30	10	-	7	1	41	3	8	-	-	-	-	-	-	-	-	-	-	-	-
I.B.	-	1	-	2	6	3	28	-	-								2	-	-	-	-	-	-	-	-	-	-	-	-	-

## 4. Comments on table 6, p.

From Table 6, one learns that, with three exceptions, all the roots in I.B. with which 'ʔ' is realized as ʔ/ϕ -s-j/ϕ or h-j-j/ϕ plus Niph'al are +Gradational. In I.A. only 18 out of 199 roots with which 'ʔ' can optionally be realized as ʔ/ϕ -s-j/ϕ or h-j-j/ϕ with Niph'al are -Gradational. It may be concluded that there is a high degree of correspondence between the class of +Gradational roots which take 'ʔ' and the class of roots with which 'ʔ' can be realized by ʔ/ϕ -s-j/ϕ or h-j-j/ϕ and Niph'al. The only difference between I.A. and I.B. in this respect is that in the latter the realization with an auxiliary is obligatory, whereas in the former it is optional.

Notice also that the scale of relative frequencies in terms of meaning features is identical for those I.A. and I.B. roots with which 'ʔ' is realized with an auxiliary. In both, the highest percentage is of  $\begin{matrix} +D \\ +G \\ -C \end{matrix}$

roots. The next highest percentage is of  $\begin{matrix} +D \\ +G \\ +C \end{matrix}$  roots.

$\begin{matrix} +D \\ -G \end{matrix}$  roots and  $\begin{matrix} -D \\ -G \end{matrix}$  have a very low frequency.

There is only one -Durational root in I.B. and only 18 in I.A. On the other hand, there is only one  $\begin{matrix} +D \\ +G \\ -C \end{matrix}$  root among those roots in I.A. with which 'ʔ' can be realized by a Binyan only. Just 7 roots are  $\begin{matrix} +D \\ +G \\ +C \end{matrix}$  and the

majority of roots are  $\begin{matrix} +D \\ -G \end{matrix}$  or  $\begin{matrix} -D \\ -G \end{matrix}$ .

- 2.4. I.C. -Dynamic roots defining non-ergative B.P.s only, for which the Aktionsart contrast ' $\left\{ \begin{smallmatrix} s \\ \nearrow \end{smallmatrix} \right\}$ ' is relevant.

In accordance with what was explained in p.143 and p.185, the roots in I.C., from a grammatical though not a lexical point of view, and in so far as non-ergative B.P.s and formations are concerned, properly belong with I.A.

#### Formational characteristics

With most roots ' $\nearrow$ ' is realized by Hithpa'<sup>c</sup>el. The roots are:

?/ø -d-m 10, ?/ø -h-v 17, b/v-g-r 144, b/v-h-r 148, b/v-l-j/ø 165, g-r- $\left\{ \right.$  439, k-r-r 541, k- $\left\{ \right.$ -r 553, n-s-j/ø 703, s-r- $\left\{ \right.$ /ø 875,  $\left\{ \right.$ -l-m 952, x-b-/v-v 1108, j-d-d 1235, j- $\left\{ \right.$ -n 1241.

With b/v- $\left\{ \right.$ -l 183, s-m-k 856 and x-l-d 1129 ' $\nearrow$ ' is realized by Hiph'<sup>c</sup>il. With d-h-j/ø 280, n-b/v-l 650, x-l-j/ø 1145 and z-r-~~x~~ 1294 - by Pa'<sup>c</sup>al.

'ø' has no uniform realization. With ?/ø -d-m 10, k-r-r 541, n-s-j/ø 703, j-d-d 1235, j- $\left\{ \right.$ -n 1241 it is realized as me'u'cac.

With b/v-l-j/ø 165, g-r- $\left\{ \right.$  439, k- $\left\{ \right.$ -r 553, n-b/v-l 650, s-m-k 856, s-r- $\left\{ \right.$ /ø 875 - as ca'cac. With b/v-r- $\left\{ \right.$ /ø 170 and x-b/v-v 1108 - as ca'cic. With  $\left\{ \right.$ /ø -d-m 10 - as ca'coc. With x-l-j/ø 1145 - as co'cec. With d-h-j/ø 280 - as ce'cec. With  $\left\{ \right.$ -l-m 952 - as muc'cac. With z-r-~~x~~ 1292 ' $\left\{ \right.$ ' is realized as Pa'<sup>c</sup>al. With this root ' $\nearrow$ ' is realized as Pa'<sup>c</sup>al too. Pa'<sup>c</sup>al with this root is then ambiguous. With <sup>m-t</sup>/ø 634 ' $\left\{ \right.$ ' is realized as 'cec'. With this

root, 'ʌ' is realized as cec too. cec too is ambiguous with this root, then.

### Semantic characteristics

Right roots are  $\begin{matrix} +\text{Durational} & : & ?/\text{e} -\text{d}-\text{m} & 10, & ?/\text{e} -\text{h}-\text{v} & 17, \\ +\text{Gradational} & & & & & \\ -\text{Completive} & & & & & \end{matrix}$

k-r-r 541, n-s-j/e 703, s-m-k 856, x-b/v-v 1108, x-l-j/e 1145, j-d-d 1235.

Three are  $\begin{matrix} +\text{Durational} & : & \text{g-r} & 439, & \text{k-}\{-\text{r} & 553, & \{-\text{l}-\text{m} & 952 \\ -\text{Gradational} & & & & & & & \end{matrix}$

Three are  $\begin{matrix} -\text{Durational} & : & \text{b/v-l-j/e} & 165, & \text{d-h-j/e} & 280, \\ +\text{Gradational} & & & & & \\ -\text{Completive} & & \text{j-}\{-\text{n} & 1241 \end{matrix}$

One is  $\begin{matrix} -\text{Durational} & : & \text{n-b/v-l} & 650. \\ +\text{Gradational} & & & \\ +\text{Completive} & & & \end{matrix}$

The high proportion of  $\begin{matrix} +\text{Durational} & \text{roots places} \\ +\text{Gradational} & \\ -\text{Completive} & \end{matrix}$

I.C. (from a grammatical viewpoint) in the class that I suggested to label  $\begin{matrix} +\text{D} \\ +\text{G} \\ -\text{C} \end{matrix}$  (cf. p. 177). This correlates with

the fact that with the majority of roots in I.C. 'ʌ' is realized as Hithpa'el.

Ex. 70.  $\begin{matrix} +\text{Durational} & : \\ +\text{Gradational} & \\ -\text{Completive} & \end{matrix}$

a. kol ha'xoref ha'jiti xo'le

'All the winter I was ill'

b. hu ben a'dam xo'le

'He is a sick man'

c. hu xo'le M?od

'He is ill very'

- d. \* hu xo'le l'gamri  
'He is ill completely'

2.5 I.D.: Defective roots: the Aktionsart contrast neutralizes.

The roots in this subtype occur with the same groups of Binyanim as the roots in I.A., but in non-ergative B.P.s the Aktionsart contrast  $\left\{ \begin{smallmatrix} \text{⚬} \\ \text{⚬} \end{smallmatrix} \right\}$  neutralizes. As a result either the Binyan which otherwise would realize '⚬' or the Binyan or Mishkal which otherwise would realize '⚬' does not actually occur. Which of the two does not occur depends on certain meaning features that are implied by the root.

1. I.D.1.: roots occurring with Pa'al and Hiph'il only and roots occurring with Niph'al (and in some cases Hithpa'el) and Hiph'il only.

It will be recalled that all the roots in non-ergative B.P.s in I.A. are -Dynamic, and, by implication, -Ingressive. This description is necessitated by the fact that the roots in I.A. take  $\left\{ \begin{smallmatrix} \text{⚬} \\ \text{⚬} \end{smallmatrix} \right\}$  (cf. Diagram 1, p.125 and p.138ff). The replacement of a root in a non-ergative B.P. in I.A. by a +Dynamic (and, by implication +Ingressive) root (cf. p.140) is necessarily coupled with the neutralization of the Aktionsart contrast. If the root is +Dynamic this means  
-Ingressive

that the feature '⚬' is properly included in it, and therefore that there can be no contrast between '⚬' and '⚬'. In the sentence 'The ball bounced', the "switching over into bouncing" stage is, so to speak, an integral part of the bouncing itself (cf. p.141). If the root is described as

+Dynamic this is equivalent to stating that it implies  
+Ingressive

' ʔ ' and that there can be no contrast between ' ʔ ' and ' ʁ ': in the sentence 'He entered the room' the "entering itself" is, as it were, identical with the switching over from the state of being outside to the state of being inside.

Subclass I.D.1 consists of two sets of roots:

+Dynamic roots and +Dynamic roots. These roots  
-Ingressive +Ingressive

occur with the same groups of Binyanim as the majority of

+Durational roots in I.A., namely Niph'al (and in some  
-Gradational

cases Hithpa'el, cf. p. 170 ), and Pa'al and Hiph'il.

However, +Ingressive roots in I.D.1 occur in non-ergative

B.P.s with Niph'al (and, in some cases, Hithpa'el) only,

that is, only with the Binyan which, had it not been for

the neutralization, would realize ' ʔ '; -Ingressive roots,

on the other hand, occur with Pa'al only, that is, only

with the Binyan which, had it not been for the neutralization,

would realize ' ʁ '.

As can be seen from Diagram 1, p. 125 all

+Dynamic roots imply +Durational though not all  
-Ingressive -Gradational

+Durational roots imply +Dynamic (they do all imply -Ingressive).  
-Gradational -Gradational

The near one-to-one correspondence between +Durational  
-Gradational

roots and Binyan Pa'al which was noted in p. holds for

I.D.1. too.

Ex. 71.

- a. 'racnu , ʔa'varnu ma'her, haja ka'ʃe lhistakel  
 'We ran , we passed quickly, it was difficult to look  
 al ze har'be vegan lahʃ'ir 'maʃehu xa'zak  
 at it much and also to leave something strong  
 banʃa'ma o bazika'ron (A.)  
 in the soul or in the memory'
- b. \* hu rac mʔod  
 'He runs very'

### The roots

The -Ingressive roots in I.D.1 are:

ʔ/ø -f 69, ʔ/ø -l-j/ø 83, ʔ/ø -v-d 119, ʔ/ø -v-r 120,  
 b/v-ʔ/ø 129, b/v-r-ʔ 178, c-ʔ/ø -d 204, c-f 217, c-m-ʔ 237,  
 c-n-ʔ 238, d-h-r 279, d-l-f 284, f/p-ʔ/ø -l 315, f/p-n-j/ø  
 347, f/p-r-ʔ 370, g-d-l 408, g-l-j/ø 421, h-l-x 462,  
 k-f/p-c 502, k-m 514, n-ʔ/ø 641, n-b/v-t 651, n/ø -f/p-l  
 673, n/ø -s-ʔ/ø 699, n/ø -ʃ -r 711, n/ø -t-f 714, n/ø -t-j/ø  
 719, n-ʔ-t 731, n/ø -z-l 733, r-ʔ/ø -d 745, r-c 755,  
 r-k-d 772, r-k/x-v 777, s-ʔ/ø -r 815, ʃ-b/v-t 923, ʃ-v 997,  
 t-s 1056, v/j/ø c-ʔ/ø 1064, v/j/ø -r-d 1083, x-d-r 1114, x-z-r  
 1222, z-n-k 1285, z-r-m 1293, z-ʔ-l 1298, z-z 1299  
 (altogether 43 roots). All the roots except two occur  
 with Pa'ʃal in non-ergative formations and with Hiph'ʃil  
 in ergative formations. The two exceptions are g-d-l 408,  
 which takes pi'ʃel in ergative formations and z-n-k 1285,  
 which takes Pi'ʃel in non-ergative formations.

The +Ingressive roots in I.D.1 are: ʔ/ø -l-v 82,

ʔ/ø -r-m 101, d-b/v-k 263, d-h-m 278, f/p-g-ʃ 325, f/p-l-t  
 342, f/p-r-d 357, f/p-s-k 373, g-ʔ/ø -l 398, g-ʃ-m 443,  
 k/x-n-s 524, k/x-ʃ-l 552, k/x-z-v 573, m-ʔ/ø -s 602,

m-{-x 630, n/ø -c-l 658, n/ø -c-t 661, n/ø -t-x 718,  
 n/ø -t-z 721, r-m-m/ø 780, r-t-ʔ/ø 796, {- ʔ/ø -r 917,  
 {-l-m 951, {-m-d 965, v-l-ʔ/ø 1076, v/j/ø -s-f 1094, x-l-c 1127,  
 x-n-k 1154, x-r-v 1170, (altogether 33 roots). The roots  
 g-{-m 443, r-m-m/ø 780, {-l-m 951 and v/j/ø -s-f 1094 take  
 Hithpa'el, in non-ergative formations. All the rest take  
 Niph'al. In ergative formations all the roots take  
 Hiph'il except x-l-c which takes Pi'el.

From the point of view of the Binyanim with which the  
 roots in I.D.1 occur and from the point of view of their  
 meaning features (+Durational; cf. above) they may be incor-  
 -Gradational  
 porated in the subclass which I labelled +D  
 -G  
 (this subclass is coextensive with I.A.1; cf. p.177 ).

### Semantic characteristics

In ergative B.P.s 9 -Ingressive roots take 'ā':  
 ʔ/ø -v-d 119, b/v-r-ʔ 178, c-m-ʔ 237, g-d-l 408, g-l-j/ø  
 421, n-b/v-t 651, n/ø -{-r 711, n/ø -z-l 733, z-n-k 1285.  
 Four roots take 'a': c-f 217, d-l-f 284, n/ø -t-f 714,  
 z-r-m 1293. The rest take 'a', but can have an indirect  
 agent in case the value of 'n' is animate (cf. p.127 ).  
 Unlike I.A., where the majority of roots which occur with  
 Hiph'il in ergative formation are +Indirect Agentive (cf.  
 p.174 ), most roots in ergative formations in I.D.1 are  
 ±Indirect Agentive. This is not surprising, since +Dynamic  
 -Ingressive  
 roots usually imply some kind of motion, and the ability  
 to move is frequently shared by animate and inanimate objects.

Among the +Ingressive roots in I.D.1 ten take 'ā'  
 in ergative B.P.s: ʔ/ø -l-v 82, d-b/v-k 263, d-h-m 278,  
 f/p-l-t 342, g-ʔ/ø -l 398, g-{-m 443, k/x-z-v 573, m-ʔ/ø -s



602, r-t-<sup>2</sup>/<sub>o</sub> 796, x-n-k 1154. Eight take 'a':  
<sup>2</sup>/<sub>o</sub> -r-m 101, m-{-x 630, n/<sub>o</sub>-t-x 718, n/<sub>o</sub>-t-z 721, {-l-m  
 953, {-m-d 965, v-l-<sup>2</sup>/<sub>o</sub> 1076, x-r-v 1170. The rest take  
 either a direct or an indirect agent. Here there is a  
 higher proportion of indirect agent roots, since most roots  
 imply not a change in the position of a body (a motion), but  
 a different kind of change (a mental change in a person,  
 etc.).

As mentioned above, all -Ingressive roots in I.D.1  
 are +Durational . +Ingressive roots are -Gradational.  
 -Gradational

They are -Durational too, since the change implied by them  
 must be a non-continuous one.+

### Examples

Ex. 72. A root that takes 'ä'.

az hit'xalti lax' }ov: ma ko're ba'tiras?

'Then I began to think: what is going on with the corn?

ha im hin'bitu et ze kmo }eca'rix? (A.)

Did they sprout it as required?

Ex. 73. A root that takes 'a'.

hem hi }midu et kol hazvu'vim bae'zor

'They exterminated all the flies in the area'

Ex. 74. A root that takes either direct or indirect agent.

'jaxad im ha'ben hi hi<sup>2</sup>'vira et kol hadva'rim (A.)

'Together with her son she moved all the things'

---

+ Some +Ingressive roots can in some contexts refer to a  
 slow process of change. In these contexts they may be  
 interpreted as +Durational. These contexts are untypical.  
 However,

Ex. 75. -Ingressive roots in non-ergative formations.

'racnu kol 'kax le'at, {e ku'lam nird'mu (A.)

'We were running so slowly, that everyone fell asleep.'

Ex. 76. +Ingressive roots in non-ergative formations.

{naim 'texef ni?m'du ve e'xad {am

'Two straight away stood up and one there

ze ha'ja ben si'xim - ni { 'kav (A.)

it was among bushes - lay down'

Notice that the root v/j/ø -c- ?/ø 1064 is included among the -Ingressive roots, whereas the root k/x-n-s 524 is included among the +Ingressive roots. This is not just because the former takes Pa'ʿal and the latter Niph'ʿal. In some contexts v/j/ø -c- ?/ø 1064 is not the opposite of k/x-n-s 524, but of x-z-r 1222, another -Ingressive root requiring Binyan Pa'ʿal.

Ex. 77.

a. ja'ca?ti la ma?rav b' {eva ba'erev

'I went out for the ambush at seven in the evening'

b. k {e xa'zarti me hama?rav ja' {avti im hamfa'ked

'When I came back from the ambush I sat with the commander

v hu tix'ker o'ti al ma {e ka'ra (A.)

and he interrogated me about what had happened'

In Ex. 77a. ja'ca?ti does not imply 'switched position from inside to outside' but 'moved in a certain direction for a certain purpose'. When v/j/ø -c- ?/ø 1064 has the former meaning, (and is the opposite of x-z-r 1222) it usually takes the preposition that is taken by x-z-r 1222 in sentences such as Ex. 77 b. k/x-n-s 524 on the other hand, takes the preposition that is taken by v/j/ø -c- ?/ø 1064 in

sentences such as Ex. 77.a..

Ex. 78.

a. ani lo jo'de? me'?eifo hem jac'?u, ki k{e

'I don't know from where they came out, because when we  
hit ka'ravnu lo ra'?inu 'nefe} xa'ja (A.)  
came closer we could not see a living creature'

b. be o'to 'rega bx'lal lo haja ix'pat li ma

'At that moment I did not care at all what  
{ehem ha'ju ʔo'sim ba'rega {eha'ju nixna'sim la'arec(A.)  
they would do the moment they would enter (into) the country'

The roots k-f/p-c 502, n-b/v-t 651 and x-d-r 1114  
can in some contexts be interpreted as +Ingressive. However,  
in many other contexts they are -Ingressive.

Ex. 79.

a. kol {?e'la ani ma'ma} ha'jiti ko'fecet im

'Every question I literally used to jump with  
ha'ecba 'lma?la (A.)  
the finger upwards'

b. hu ka'fac mehamakpe'ca lttox ha'maim

'He jumped from the jumping board into the water'.

Some speakers use the form na'ful (the root n-f/p-l  
673 with Mishkal ca'cuc), meaning 'is fallen'. For those  
speakers the root n-f/p-l 673 is associated with '{<sup>ω</sup>ʔ}', such  
that 'ʔ' is realized by Pa'al and 'o' by ca'cuc.

Ex. 80.

a. haki'se bamit'bax na'ful

'The chair in the kitchen is fallen'

b. haki'se bamit'bax na'fal

'The chair in the kitchen fell down.'

The roots f/p-n-j/ø 347 and n/ø-t-j/ø 719 are sometimes used as -Dynamic:

Ex. 81.

- a. ha giv'ʔa ha zot po'na maʔ'rava  
'This hill faces westwards'
- b. hamxo'nit pan'ta s'mola  
'The car turned to the left'

One rarely finds contexts in which f/p-n-j/ø 347 and n/ø-t-j/ø 719 in the latter sense contrast with the +Dynamic use of these forms. However, it is perhaps correct to say that the roots f/p-n-j/ø 347 and n/ø-t-j/ø 719 are associated with the Aktionsart contrast ' $\{\emptyset\}$ ', such that in some contexts Pa'al is the realization of ' $\uparrow$ ', and in some other contexts the realization of ' $\emptyset$ ', but in many contexts the Aktionsart contrast neutralizes and Binyan Pa'al is either the realization of ' $\uparrow$ ' only, or the realization of ' $\emptyset$ ' only, or else the roots are +Dynamic and Pa'al is the realization of ' $\emptyset$ '.

It is perhaps not immediately clear that the roots m-ʃ-x 630 and ʃ-z/ø-r 917 are, or can be interpreted as +Ingressive. These two roots usually imply a contrary-to-expectation event: an expectation that something stop or disappear etc. is not fulfilled.

Ex. 82.

- a. az hu o'mer li, tir'ʔe, ata lo bi'caʔta kan  
'So he tells me, look, you did not commit here  
{um da'var ʃe hu 'neged hora'ʔa. a'ta mxu'se  
anything that is contrary to an order. You are covered  
lgamri a'val b'eizo pi'na ec'li ni}ʔ'ra harga'a  
completely but in some corner in me there remained a  
lo nʔi'ma (A.)  
feeling unpleasant.'

b. ha ase'fa nim{'xa al af ha hafra'ʔot

'The meeting went on despite the disturbances'

c. a'ta mat'xil dra'rim, a'ta lo ja'xol u'lai

'You start things, you cannot perhaps

lham{'ix o'tam, hem bxol zot u'lai nim{'axim b

continue them but they nevertheless perhaps continue by

kow hai'nercia. (A.)

the force of inertia.'

In Ex. 83.a. the reader is told that the speaker's bad feeling remained, contrary to the expectation that it would disappear as a result of what the other fellow said. From Ex. 83.b. the reader learns that the meeting went on contrary to the expectation that it would stop as a result of the heckling and similarly in Ex. 83.c. The roots  $m\{-x$  630 and  $\{-\frac{7}{\phi} -r$  917 can then be described as kind of "Ingressive roots in reverse". 719 = "not disappear, not go away, switch over to a state of non-disappearing and going-away". 347 = "not stop, switch over to a state of not stopping". This interpretation may seem like stretching the facts to suit the theory. However, there is nothing in the facts themselves to contradict it and it cannot be rejected off hand.

The root  $\{-b/v-t$  923 was included among the +Dynamic -Ingressive roots despite the fact that it is not semantically "dynamic." The reason for this is that it may be interpreted as a "+Dynamic root in reverse". Its meaning is "being inactive, being static, the negation of being active or dynamic". Formally, it has all the characteristics of a +Dynamic -Ingressive root. It does not take  $\{\frac{\phi}{\lambda}\}$ . In ergative formations it takes Pa'al only, and in ergative formations Hiph'il. The above remark concerning the interpretation of  $m\{-x$  630 and  $\{-\frac{7}{\phi} -r$

917 applies here too.

2. I.D.2.: +Dynamic roots with Hithpa'el in  
+Ingressive  
non-ergative formations and Pi'el in ergative  
formations.

This subclass includes only twelve roots: ʔ/ə-r-r 40,  
b/v-t-l 190, f-l-~~x~~ 343, f/p-ʔ-r 380, k-j-m 571, r-b-j/ə 751,  
r-p-ʔ/ə 784, s-b-x 822, s-j-m 908, x-j-v 1212, z-m-n 1281,  
z-v-g 1297. The root r-t-~~x~~ 803 occurs with Hithpa'el in non-  
ergative formations and Hiph'il in ergative formations.

k-j-m 517 is a "+Ingressive root in reverse" (like  
m-ʔ-x 630 and ʔ/ə-r 917 cf. above). Its meaning can be  
represented as "not to be cancelled, contrary to expectations".

Ex. 83.

ha jʔi'va hitkaj'ma af al pi ʔe ha

'The meeting took place despite the fact that the

joʔev'roʔ xa'la

chairman fell ill'

In ergative B.P.s five roots take 'ā': r-p-ʔ/ə 784,  
s-j-m 803, s-b-x 822, z-m-n 1281, z-v-g 1297. The rest  
take 'a'.

Two roots which take Hithpa'el only in non-ergative  
formations and Pi'el in ergative formations are +Dynamic  
-Ingressive:

k-d-m 495 and n-h-l 680.

3. I.D.3: +Dynamic  
+Ingressive roots with Niph'al in non-ergative  
formations and Pa'al in ergative formations.

This subclass includes only ten roots:  $\text{ʔ/ʕ-c-r}$  63,  
d-x-f 309, d-x-k 310, g-m-l 424, h-f-x 459, k-l-t 512,  
m-n- $\text{ʔ/ʕ}$  618, s-x-v 900, t-r-k 1053, v/j/ʕ -c-r 1065.  
Among these two take 'ă'. The rest take 'a'. This is in  
line with the fact that in I.A.2 (where the Binyan realizing  
' ʔ ' is Niph'al and the Binyan in ergative formations is  
Pa'al) only 2 roots out of a total of 74 take 'ă' (cf. table,  
4, page 172 ).

The root m-n- $\text{ʔ/ʕ}$  618 is, like m- $\text{-x}$  630 and  $\text{-ʔ/ʕ-r}$   
917 '+Ingressive in reverse' (cf. p. 200 ).

Ex. 84.

ha a'son {eha'ja ʔa'lul lik'rot nim'na bnes  
'The disaster that could have happened was prevented by  
ba'rega ha ax'ron  
miracle in the last moment'

In Ex. 84 the form nim'na can be paraphrased  
"contrary to expectations, did not happen; could have  
happened; switched over into not happening".

Ex. 85.

v pit'ʔom ha'tank haze niʔ'car vhit'xil  
'And suddenly this tank stopped and started  
li'rot (A.)  
shooting'

Ex. 86.

ha'delet nitr'ka byat a'xat  
'The door slammed in one blow'

Ex. 87.

kʃe 'even xa'zar me a'merika no'car

'When Eban came back from America was created

ma'cav xa'daʃ (A.)

a new situation'

Two roots which take Niph'al - only in non-ergative formations and Pa'al in ergative formations are +Dynamic -Ingressive  
g-r-r 347 and s-x-v 902.

4. +Dynamic and +Dynamic roots in non-ergative  
+Ingressive -Ingressive

B.P.s only.

A number of roots exhibit the same characteristics as the roots in the above subclasses, except that they do not define ergative B.P.s. According to what was suggested in pp. this does not make an essential grammatical difference between those roots and the roots that do define ergative B.P.s, since the fact that the latter do not define such B.P.s may be ascribed to the lexicon rather than to the grammar.

- I.D.4. +Dynamic roots occurring in Niph'al only  
+Ingressive

and +Dynamic roots occurring in Pa'al only.  
-Ingressive

- 3 The +Dynamic roots with Niph'al are:  
+Ingressive

ʔ/ɸ-b/v-d 60, ʔ/ɸ-l-m 81, b/v-l-ʔ/ɸ 157, k/x-n-ʔ/ɸ 254,  
d-x-j/ɸ 312, f/p-t-r 386, f-t-r 386a, k-l-ʔ/ɸ 507, s-v/j/ɸ -g  
887, ʃ-n-j/ɸ 977, t-k-f 1031, t-k-l 1032a, v/j/ɸ -l-d 1078,  
v/j/ɸ-t-r 1098, v/j/ɸ-x-x 1101.

The root 60 can also occur with Pi'el. The roots



d-~~z~~-j/ø 312, t-k-f 1031 and v/j/ø -l-d 1078 can occur with Pa'ʿal. However, in all these cases the formations in which the roots take these Binyanim are not derived from ergative B.P.s but from the converses of those non-ergative B.P.s that underlie formations in which the roots in question take Niph'ʿal (cf. pp. 275-283).

In formal style the root ʔ/ø -b/v-d 60 occurs in non-ergative formations with Pa'ʿal rather than with Niph'ʿal.

Ex. 88.

k(e a'ta nit'kal pit'ʔom b eize {ehu mi}'pat

'When you encounter (bump into) suddenly with a certain sentence

{e me'ʔid el hava'na a'ta kol kax nid'ham.

which bears evidence to understanding you get so stunned.

a'ta xo'ev: ax, ha ba'xur haze hu b'xol zot

You think : gosh this boy is after all

intelli'genti (A.)

intelligent'

Ex. 89.

a'ni nolad'ti bramat'gan v xa'jiti {am ad haca'va (A.)

'I was born in Ramatt Gan and lived there till (my) army

(service)'

The +Dynamic roots with Pa'ʿal are: ʔ/ø -r-k 100,  
-Ingressive

c-l-l 226, d-ʔ/ø -j/ø 261, f/p-l- 341, g-l- 418, n-d-d 667,

r-d-f 761, s-x-j/ø 903, t-r 1047.

Ex. 90.

ra'dafti ax'rav ka'rov lxcī {a'ʔa

'I ran after him about half an hour'

Ex. 91.

am isar'el na'dad bamid'bar arba'ʔim }a'na  
 'The people of Israel roamed in the desert for forty years'

Grammatically, I.D.4 and I.D.1 can be merged into a single subclass. The difference between roots of these two subclasses is lexical (cf. p. 143).

Eight +Dynamic roots occur with Pa'ʕal (only)  
 +Ingressive

rather than Niph'ʕal. These should be regarded as exceptions  
 ʔ/ʕ -z-l 124, c-c 212, f/p-r- } 364, g-l- } 419, h-r-j/ʕ 467,  
 s-t-j/ʕ 886, x-d-l 1113, x-l-f 1131. On the other hand,  
 one +Dynamic root, g-r-f 434, occurs with Niph'ʕal.  
 -Ingressive

Ex. 92.

'mi } ehu cac pit'ʔom meax o'rei hakim (A.)  
 'Someone appeared suddenly from behind the wall'

Ex. 93.

ha'ge } em him' } ix la'redet vhaʔa'lim nigr'fu bmo'rad  
 'The rain continued to flow down and the leaves were swept  
 har'xov  
 downwards in the street'

5. I.D.5. +Dynamic and +Dynamic roots which  
 +Ingressive -Ingressive

define a non-ergative B.P.s only and take other  
 Binyanim.

Some +Dynamic roots occur with Hiph'ʕil and some with  
 +Ingressive

Hithpa'ʕel. A number of +Dynamic occur with Hithpa'ʕel  
 -Ingressive

and some with Pi'ʕel.

The +Dynamic roots that take Hiph'il are:  
+Ingressive

f-l-g 337, f-{-r 379, g-l-d 415, n/φ -p-l 697, x-l-m 1140,  
x-m-o 1146.

Grammatically these roots go together with I.A.3.

The +Dynamic roots in Hithpa'el are ?/φ -c-m 61,  
+Ingressive

b-r-g 171, b-r-r 173, f/p-k-?/φ 328, f/p-l-g 339, g-b-r 405,  
g-l-ž 414, k-b-l 483, k-j-m 569, l-k-x 590, m-x-j/φ 639,  
n-?/φ -r 645, n-d-f 668, n-p-l 696, n-x-l 726, p-l-c 736,  
p-r-c 740, r-?/φ -m 747, s-?/φ -r 814, s-g-l 835, s-n-n 866,  
{-b-r 921, {-k-?/φ 936, {-t-x 995, {-v-c 998, {-v-j/φ 1000,  
v-d-?/φ 1069, x-l-k 1132, x-m-k 1148, j-c-v 1234. Grammatically  
these roots go together with I.D.2 and, ultimately with I.A.  
4-5.

Ex. 94.

{a'xaxta lhax'nis et haxa'lav lamka'rer vhu hix'mic  
'You forgot to put the milk in the fridge and it became sour'

Ex. 95.

bahatxa'la ha'ja lanu kcat ka)e la'gur {am, aval  
'At first it was for us a little difficult to live there, but  
axar kax hista'galnu  
later on we got used to it'

The +Dynamic (and, by implication, +Durational )  
-Ingressive -Gradational

roots in Hithpa'el are: ?/φ -f-f 12, ?/φ -m-l 31, h-l-x 463,  
n-{-f 706, n-{-m 710, r-c-c 756, s-v-v 893, s-v-v 894,  
z-r-z 1296. Except m-{-x 628 and z-r-z 1296 all these roots  
denote movement to and fro, or a rhythmical motion.

Ex. 96.

ha ci'por hit?of'fa mi?ec l?ec

'The bird flew to and fro from one tree to another'

The +Dynamic roots in Pi'el are d-d-j/ø 268, d-l-g 286,  
-Ingressive

m-h-r 611, n-t-r 717, r-x-f 807, m-j-r 909, t-p-s 1046,  
t-j-l 1060.

Ex. 97.

b'me(ex aʒ'rei haçoho'raim si'jarnu ba'etʒ,

'During the afternoon we toured the area'

The existence of +Dynamic (and, by implication,  
-Ingressive

+Durational (cf. Diagram 1, p.125) roots in non-ergative  
-Gradational

B.P.s with Hithpa'el and Pi'el has no explanation in terms  
of the general line of presentation adopted above.

Unlike Pa'al, neither Hithpa'el nor Pi'el are  
used as the realization of 'ø' in I.A.. The explanation  
why Pa'al is used with +Dynamic roots in I.D.1 (cf. p.193)  
-Ingressive

is not valid for the +Dynamic roots that take Pi'el  
-Ingressive

or Hithpa'el, then.

One point worth mentioning in this connection is that  
no +Dynamic roots occur with a non-finite Mishkal, that is, a  
Mishkal which is not inflected according to tense and person.  
All occur with finite Binyan forms, that is, with Binyan forms  
that vary according to tense, gender, number and person.

In other words, the finite Binyan forms define inclu-  
sively and exclusively the semantic tie-up +Dynamic. Now, as  
-Ingressive

explained in p.193, one would expect the +Dynamic  
-Ingressive

roots, with which the contrast  $\left\{ \begin{smallmatrix} \text{ø} \\ \wedge \end{smallmatrix} \right\}$  neutralizes, to take  
the Binyan which, had it not been for the neutralization,  
would realize 'ø', rather than the Binyan which would  
realize '∧'. The latter Binyan is expected to go with

+Dynamic roots, not with +Dynamic roots.  
+Ingressive -Ingressive

This is actually the case with the +Dynamic  
-Ingressive

roots in I.D.1, which take Pa'al, the Binyan which, had it not been for the neutralization, would realize '  $\emptyset$  '. However, Pa'al is the only Binyan which realizes '  $\emptyset$  ' in I.A.1. The other forms realizing '  $\emptyset$  ' are non-definite Mishkalim. In case the contrast '  $\{\emptyset\}$  ' neutralizes with a +Dynamic  
-Ingressive root such that, had it not been for the neutralization, the form realizing '  $\emptyset$  ' would be a non-finite Mishkal, there is bound to be a clash between the expectation that the +Dynamic  
-Ingressive root should occur with the form which in I.A. would realize '  $\emptyset$  ', and the expectation, mentioned above, that +Dynamic  
-Ingressive roots do not take non-finite Mishkalim. It seems that the latter overrides, since all those +Dynamic roots in I.D.  
-Ingressive which do not take Pa'al "prefer" to take another Binyan (even though no Binyan other than Pa'al occurs as the realization of '  $\emptyset$  ' in I.A.), than to take a non-finite Mishkal.

2.6. I.E.: -Dynamic roots in non-ergative and ergative B.P.s, without the Aktionsart contrast '  $\{\emptyset\}$  '.

The behaviour of roots in I.E. seems to contradict that of roots in I.A., I.B. and I.C.. In both the latter subclasses and I.E. the roots are -Dynamic and they occur in ergative and non-ergative B.P.s, or in non-ergative B.P.s only, yet the roots of I.E., unlike those of the other subtypes, do not require '  $\{\emptyset\}$  '. In most cases this special behaviour of I.E. roots is explained by the fact that the latter imply certain specific meaning features or have certain syntactic characteristics that are shared by no roots

whatsoever, or by very few roots, in the other subtypes. The probability for ' $\{\phi\}$ ' to occur with -Dynamic roots which imply these specific semantic features or which have these syntactic characteristics is very low or nil.

1. I.E.1: Roots denoting a feeling or a mood.

Those roots with these meaning features which take Pa'al in non-ergative formations do not take ' $\{\phi\}$ ':  
 ?/φ -h-v 16, b/v-z 202, d-ʔ/φ-g 259, f/p-ʔ-d 392, k/x-ʔ/φ-s 471, k/x-ʔ/φ -v 472, s-b/v-l 818, s-b/v-l 819, s-m-ʔ 862, s-n-ʔ/φ 864, x-ʃ-ʃ 1188. Of the latter, four roots, d-ʔ/φ-g 259, f/p-ʔ-d 392, k/x-ʔ/φ-s 471 and s-n-ʔ/φ 864 take Hiph'il in ergative B.P.s (all these four have 'ă' rather than 'a'). One root, s-m-ʔ 862, takes El'iel in ergative B.P.s. The rest occur in non-ergative B.P.s only.

The root ʔ/φ -h-v 16 can take 'content object'. It then belongs simultaneously to I.E.1 and I.E.2 (cf. 2.6.2.).

The root s-b/v-l 819 can occur only if accompanied with the negative particle lo 'not', with any of certain other means of negation or with the emphatic affirmative particle ken (literally 'yes').

Ex. 98.

- a. hu af 'paam lo sa'val et ze be'ofen mju'xad,  
 'He never liked this particularly,  
 at ha a'naf hamsu'jam haze el mi {pa'tim (A.)  
 this special branch of law'  
 b. ani harbe pa'xot so'vel oto ma'e 'paam  
 'I much less like him than before'  
 c. a'ni lo so'vel da'gim aval file ani ken so'vel  
 'I can't bear fish but fillet I can bear'

Only one root which denotes a mood and takes Pa'fal in non-ergative B.P.s does require ' $\{\phi\}$ '. This is the root s- $\text{?}/\phi$ -r 815 cf. p. 151 ). Notice however, that s- $\text{?}/\phi$ -r 815 is in some contexts -Durational, whereas the roots in I.E.1

+Gradational  
-Completive

s- $\text{?}/\phi$ -r 815, can in some contexts be interpreted as

-Durational . Notice also that s- $\text{?}/\phi$ -r 815 requires  
+Gradational  
-Completive

' $\{\phi\}$ ', only when it is interpreted metaphorically as a mood and the values of 'n' in its B.P. are animate. Otherwise this root is treated as +Dynamic and the contrast ' $\{\phi\}$ ' neutralizes (cf. p. 192 ).

Ex. 99.

\* ha'jam nis'ar

'The sea got stormy'

Two roots denoting feelings,  $\text{?}/\phi$ -l-v 82 and g- $\text{?}/\phi$ -l 398, are +Dynamic and occur with Niph'fal only, with the +Ingressive contrast ' $\{\phi\}$ ' neutralized (cf. p. 194 ).

Only four roots which denote feelings and do not require ' $\{\phi\}$ ' take a Binyan other than Pa'fal: c- $\text{?}/\phi$ -r 206 and f/p-l- $\text{?}/\phi$  335 (take Hithpa'el) k-n- $\text{?}/\phi$  519 and r-x-m 809 (take Pi'el). All four define a non-ergative B.P.s only and

are +Durational  
+Gradational  
-Completive

All the other roots which denote feelings or moods do require ' $\{\phi\}$ '. With these roots ' $\phi$ ' is realized by a non-finite Mishkal. None of them takes Pa'fal. The roots are:

b/v-h-l 146, b/v-j- $\{$  199, d-k- $\frac{7}{\phi}$  281, l-h-v 584, r-g- $\frac{7}{\phi}$  764, r-g- $\{$  768, v-x 1099, j- $\frac{7}{\phi}$ - $\{$  1228.

2. I.E.2.: -Dynamic roots with "content object", and "internal object" roots.

"Content object" roots are roots of saying, thinking, sensing etc. in non-ergative and ergative B.P.s or in ergative B.P.s only, where the content of the saying, thinking, sensing etc. (the thing said, thought, sensed etc.) is expressed as a B.P., instantiating a value of the variable 'f'. With three exceptions, these roots do not require the Aktionsart contrast ' $\frac{\phi}{\gamma}$ '. The exceptions, that is, the content-object roots which do require ' $\frac{\phi}{\gamma}$ ', are: b/v-r-r 174, v/j/ $\frac{\phi}{\gamma}$ - d $\frac{7}{\phi}$  1068 and z-k/x-r 1271. The root v/j/ $\frac{\phi}{\gamma}$ -x-x 1101 is the only content object root which is +Dynamic, the rest are -Dynamic.  
+Ingressive

"Internal object" roots<sup>+</sup> are also -Dynamic roots in non-ergative and ergative B.P.s or in non-ergative B.P.s only. They are characterised by the fact that they take arguments whose values belong to a specific restricted class, defined intensionally by a certain meaning feature of a particular root. E.g. 'wear' is an internal-object-verb, since the things one wears belong to the restricted class "items of clothing."<sup>++</sup> On the other hand, the verb 'open' is an external object verb, since the things one opens do not belong to a restricted class. It is true that one opens only

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+ The term "internal object" is taken from standard Greek and Latin grammars. (Cf. for instance Goodwin 1961: 223). However, its use here is not necessarily identical with its use in any of the grammars.

++ In C.I.H. the root corresponding to "wear" defines a non-ergative rather than an ergative B.P.. The ergativity or non-ergativity of the B.P. is however irrelevant to the point at issue.



"openable" things, but the latter can be doors, mouths, letters etc., in other words, items of widely different kinds. Notice that the distinction between external and internal objects is largely a matter of degree.

Unlike content objects, which are all values of 'f', internal objects may belong to different argument, in other words, to arguments with different labels. Content-object-roots in I.E.2 will be recognized, then, by the presence of 'f' in their B.P.s.

There are only four internal object roots in I.E.2. Most internal-object roots define ergative B.P.s only. With reference to the latter, the question whether they require '{ $\phi$ }', or not does not arise at all, then.

In non-ergative B.P.s with Pa'ʿal, and ergative B.P.s with Hiph'il

The roots are: ʔ/ϕ -n-d 92, d-ʔ/ϕ -g 259, f/p-x-d 392, l-b/v-ʃ 579, r-ʔ/ϕ -j/ϕ 742 and t-ʔ/ϕ -j/ϕ 1020. In ergative formations ʔ/ϕ -n-d 92 occurs with Pa'ʿal, the other roots - with Hiph'il.

Ex. 100.

- a. a'ni jom e'xad po'geʃet o'ta, ro'ʔa {e je}  
 'I one day met her, saw that she  
 la kan 'ketem ka'xol xa'zak me al ha 'ʔain (A.)  
 had here a dark blue mark above the eye'
- b. hi hirʔ'ta li {e je} la 'ketem meal ha'ʔaim  
 'She showed me that she had a mark above the eye'

Some content object roots which occur with Pa'ʿal and Hiph'il occur also with Niph'ʿal.

Ex. 101.

- a. hu {a'maʔ ba'telefon et hakol {el hasa'mal  
 'He heard in the telephone the voice of the sergeant'

b. ba'telefon ni<sup>2</sup> 'ma<sup>2</sup> ha'kol {el hasa'mal (A.)

'In the telephone was heard the voice of the sergeant'

c. hu 'hi<sup>2</sup> mi<sup>2</sup> li tak'lit {el 'bethoven

'He got hear me a record of Beethoven'

(=played for me)

Ex. 191.b. is the passive formation corresponding to Ex. 101.a. The B.P. defined by the root  $\{-m-^2/\phi\}$  962 and realized in Ex. 101.a. may be regarded as an ergative one, since it has a passive converse. On the other hand this root has all the characteristics of content-object or internal-object roots such as  $^2/\phi -n-d$  92,  $1-b/v-$  579 etc. (cf. above). It requires an internal object (which must belong to the class of things designated as 'sounds'), it does not take ' $\{\phi\}$ ' and it occurs with Pa'<sup>c</sup>al in what, had it not been for the passive converse, would be considered a non-ergative B.P., as well as with Hiph'<sup>c</sup>il in an ergative B.P.. It is perhaps correct, then, to assign to roots such as  $\{-m-^2/\phi\}$  962 a double classification. They belong simultaneously to I.E.2, where they define the B.P.-type ' $\{a\}n, x [R]$ ' ('x' refers to a "content object" or to an "internal object") and to I.F.1 (cf. 2.7.1.), where they define the B.P.-type ' $\{a\}a,g [R]$ '.<sup>+</sup>

The roots with this double classification are  $r-^2/\phi -j/\phi$  742,  $\{-m-^2/\phi\}$  962,  $\{-x-\#$  1002 and  $x-t-m$  1202.

All occur with Pa'<sup>c</sup>al in non-ergative B.P.s and with Hiph'<sup>c</sup>il in ergative B.P.s.

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+ This is only the general form of the B.P.-types. Idiosyncratic features of each B.P.-type are ignored.

Content-object and internal-object roots in non-ergative formations only, with Pa'al

The roots are: ʔ/φ-h-v 16, ʔ/φ-h-d 74, ʔ/φ-m-r 90, k-b/v-l 479, k-r-n 538, l-ʔ/φ-s 576, l-m-d 592, n-d-r 670, n-ʃ-f 705, n-ʃ-m 709, n-t-j/φ 720, r-c-j/φ 759, s-b/v-l 818, s-n-ʔ/φ 863, s-v-r 890, ʃ-ʔ/φ-f 911, ʃ-m-ʔ/φ 960, t-ʔ/φ-n 1018, v/j/φ-d-ʔ/φ 1067, x-l-m 1139, x-ʃ-ʃ 1188, x-ʃ-v 1194, j-n-k 1239, j-z-m 1255, z-x-j/φ 1273.

Ex. 102.

a. ani xo'ʃevet ʃe ze no'ten lxa ʔi'mun (A.)

'I think that this gives you training'

b. ani ta'mid ta'ʔanti ʃea'tem jo'ter cʔi'rim (A.)

'I always argued that you are younger'

Content-object and internal-object roots with other Binyanim in non-ergative formations.

Three roots take Niph'al in non-ergative formations: ʔ/φ-l-c 78, d-b-r 264, ʃ-b/v-ʔ/φ 919. ʔ/φ-l-c 78 takes Pi'el in ergative formations, ʃ-b/v-ʔ/φ 919 and d-b-r 264 defines non-ergative formations only.

The root x-r-ʔ 1171 takes Mishkal muc'cac in non-ergative formations, and Hiph'il in ergative formations.

The following roots define non-ergative B.P.s only, and take Hithpa'el: ʔ/φ-m-c 27, ʔ/φ-n-n 34, ʔ/φ-r-v 73, c-l-ʔ 231, c-r-x 246, l-b-t 581, n-b-ʔ/φ 648, n-c-l 656, p-ʔ/φ-r 735, p-l-l 737, s-d-d 825, ʃ-d-l 928, v-d-j/φ 1071, v-k-ʔ 1075, x-r-t 1168.

The following roots define non-ergative B.P.s only, and take Hithpa'el: ʔ/φ-d 9, ʔ/φ-z 58, ʔ/φ-m-n 89, f-s-d 371,

n/-g-d 407, k-p-d 529, n-~~x~~ 725, s-k-m 845, s-p-k 868,  
 t-r-<sup>2</sup>/ø 1049, t-r-j/ø 1055, v/j/ø -d-j/ø 1072, v-x-n 1100,  
 x-l-l 1137.

The root n/-g-d 407 occurs only with the future tense Mishkalim. In the other tenses it is supplemented by the root <sup>2</sup>/ø -m-r 90.

The following roots define non-ergative B.P.s only and take Pi'el: c-p-j/ø 249, d-m-j/ø 292, h-s-s 468, k-b-l 484, n-g-n 677, n-s-j/ø 702, s-r-v 882, s-~~x~~-k 896, s-~~x~~-k 897, j-k-r 943, x-l-l 1138.

The roots h-s-s 468 and l-b-t 581 require as the instantiation of 'f' a disjunction of the 'whether..or' kind; in other words, two B.P.s that are joined together by a disjunction operator of a specific type. This is an idiosyncratic feature of these two roots. In every other respect they are ordinary content-object roots.

Ex. 103.

hu hi'ses im lhika'nes la'xeder o lo

'He hesitated whether to enter the room or not'

### Semantic features of roots in I.E.2.

All the roots which define ergative B.P.s, except <sup>2</sup>/ø -n-d 92 (which is the only root that takes Pa'al in ergative B.P.s) and l-b/v- 579 take 'ä' rather than 'a'. This is in line with a former observation, that Hiph'il has the semantic tie-up "indirect agentive" (cf. p. 174).

In non-ergative B.P.s all the roots which take Pa'al, except n-d-r 670, n-t-j/ø 720, {-k/x-~~x~~ 1002, t-<sup>2</sup>/ø -j/ø 1020 and z-x-j/ø 1273 are +Durational. The five exceptions

are -Durational . Of the +Durational roots the following  
-Gradational

are +Gradational :  $\text{ʔ}/\phi$ -h-v 16,  $\text{ʔ}/\phi$ -h-d 74, d- $\text{ʔ}/\phi$ -g 259,  
-Completive

f/p-~~x~~-d 392, r-c-j/ $\phi$  759, s-b/v-l 818, s-n- $\text{ʔ}/\phi$  863 and x- $\text{ʔ}$ - $\text{ʔ}$  1188.

The latter all denote a feeling or state of mind (except

$\text{ʔ}/\phi$ -h-d 74 and r-c-j/ $\phi$  759 they are all classified under

I.E.1 as well). All the other roots are -Gradational. It is

clear, then, that both from the formational point of view

and from the semantic one the roots which take Pa' $\text{ʕ}$ al in I.E.2

are related to the roots in I.A.1, in other words, to the

subclass that was labelled +D; cf. p.177 ).

-G

Of the roots that take Hithpa' $\text{ʕ}$ el c-r-x 246 and  $\text{ʔ}$ -d-l

928 are +Durational x-r-t 43 is -Durational .

+Gradational -Gradational

-Completive

x-r-t 1168 is -Durational . All the rest are +Durational .

+Gradational -Gradational

+Completive

Of the roots that take Hiph' $\text{ʕ}$ il,  $\text{ʔ}/\phi$ -z 58 is

-Durational .  $\text{ʔ}/\phi$ -d 9 is +Durational . All the rest

+Gradational -Gradational

-Completeve

are -Durational . Of the roots that take Pi' $\text{ʕ}$ el k-b-l 484

-Gradational

and s-r-v 882 are -Durational . All the rest are +Durational

-Gradational -Gradational.

As can be seen from table 5, p.173 the semantic tie-up

of Hithpa' $\text{ʕ}$ el or Hiph' $\text{ʕ}$ il in I.E.2 has nothing to do with the

meaning features that are implied by those roots in I.A. with which

Hithpa' $\text{ʕ}$ el or Hiph' $\text{ʕ}$ il realize '  $\text{ʔ}$  '. As for Pi' $\text{ʕ}$ el, this

Binyan does not occur with roots in non-ergative formations

in I.A. On the other hand the roots that take Pa' $\text{ʕ}$ al in

non-ergative formations in I.E.2 imply meaning features

similar to those implied by roots which take Pa' $\text{ʕ}$ al.

### 3. I.E.3. Roots denoting sounds.

Roots which denote sounds, especially vocal sounds or sounds produced by a musical instrument, and roots denoting involuntary bodily actions, occur in non-ergative B.P.s only and do not take ' $\{\frac{\phi}{\lambda}\}$ '. A single exception is c-~~x~~-k 257, which defines both a non-ergative and an ergative B.P. In the ergative B.P. it has 'ä' rather than 'a' and in formation it takes Hiph'il.

Most roots of this subclass take Pa'al:

b/v-k/x-j/ $\phi$  156, c- $\frac{7}{\phi}$ -k 205, c-f/p-r 220, c-r-~~x~~ 247, c-~~x~~-k 257, g- $\frac{7}{\phi}$ -j/ $\phi$  400, g-n-~~x~~ 429, n- $\frac{7}{\phi}$ -m 644, n- $\frac{7}{\phi}$ -r 647, n-b/v-~~x~~ 652, n-h-m 681, n-~~x~~-r 729, r- $\frac{7}{\phi}$ -m 746, r-t-n 799,  $\{-\frac{7}{\phi}$  -g 912,  $\{-r$  983,  $\{-r$ -k 984, z- $\frac{7}{\phi}$  -k 1258.

Three roots occur with Hiph'il: f-l-c 336, r- $\frac{7}{\phi}$  744, z- $\frac{7}{\phi}$  1256.

Two occur with Hithpa'el: c-~~x~~-k 258,  $\{-\frac{7}{\phi}$  -l 915.

Two with Niph'al:  $\frac{7}{\phi}$  -n-k 93,  $\frac{7}{\phi}$  -n-~~x~~ 96.

Eight - with Pi'el: c-j-c 249, f/p-h-k 327, g-h-k 413, n-g-n 677, t-f-f 1026, x-l-l 1138, x-j-x 1215. j-b-v 1227.

Four roots are -Durational : f-l-c 336, f/p-h-k 327, g-h-k 413,  $\{-\frac{7}{\phi}$  -l 915.  
-Gradational

All the rest are +Durational . Both formationally  
-Gradational

and semantically then, I.E.3 roots are related to I.A.1.

Most roots of this subclass can be interpreted as content-object roots as well. For n-g-n 677,  $\{-r$  983 and x-l-l 1138 this interpretation does not even involve recategorization, since they are in fact content-object roots with the object deleted.

Ex. 106.

a. hu {ar

'He sang'

b. hu {ar et jru{a'laim {el za'hav

'He sang "Jerusalem of Gold"'

Ex. 107.

a. hu xi'lel

'He played the flute'

b. hu xi'lel {nei {i'rim

'He played on the flute two songs'

This does not apply to the rest, however, For instance, the root  $\{-7/4-g\}$  912, if interpreted as a sound-root, requires that each value of the variable 'n' in its B.P. refer to a lion.

Ex. 108.

a. ha ar'je {a'ʔag

'The lion roared'

b. jhu'da {a'ʔag

'Jehuda roared'

If the root  $\{-7/4-g\}$  912 in Ex. 108 b. were to be interpreted as a sound-root, then Jehuda must be taken as the name of a lion. However  $\{-7/4-g\}$  912 can be interpreted as a content object root, in which case it will be paraphrased 'say, with a roar-like voice'.

Ex. 109.

jhuda {a'ʔag: ce m ha 'xeder

'Jehuda roared: 'Get out of the room'

In Ex. 109 Jehuda should be interpreted as the name of a human being.

## 4. I.E.4. Quasi-copulas

	Sg.		Plur.
	m	f	c
Past	ha'ja	haj'ta	ha'ju
Future	ih'je	tih'je	ih'ju
Unmarked tense	hu	hi	hem

Table 7: the copula

Table 7 displays the various forms of the C.I.H. "copula". In the past and future tenses the copula consists of the root h-j-j/ø ('be') in Binyan Pa'al. In the unmarked tense it is identical with the independent personal pronoun.

Ex. 110.

a. hu {a'fuf (hi {fu'fa / hem {fu'fim) v hu zo'rek

'He stoops (she stoops/ they stoop) and he throws

et ha rag'laim la cda'dim (A.)

his legs sideways'

b. jla'dim margi'jim et zec jo'ter. hem ja'gidu:

'Children feel this more. They would say:

hu mu'zar hu p'sixi (hem muza'rim /hem psixim)'

he (is) strange, he(is)eccentric(they(are) strange /

they (are) eccentric'

c. a'ni jo'ce minku'dat r?ut {eo'to ara'vi hu

'I start out from the viewpoint that that Arab is

ben a'dam, vlo xa'uv ma {ehu a'sa lif'nei xen

a human being and it is unimportant what he had done before'



(o'tam ara'vim hem bnei a'dam ) (A.)

those Arabs are human beings

d. ha gi'xa ha ri'o'na haj'ta (tih'je) haka'a

'The first swoop was (will be) the most

bjo'ter (A.)

difficult one'

In Ex. 110.a., b., where the subject consists of the personal pronoun and the tense is unmarked, the copula does not occur at all. In the other examples, where the subject consists of an expression other than the personal pronoun, the copula does occur.

Lyons (1968:246) asserts that 'the copula is not a lexical item ... but a purely grammatical "dummy", serving as the 'locus' for the indication of tense, mood and aspect'. He then suggests to extend the use of the term 'copula', so that it will cover also traditionally "full" verbs such as 'live' (with animate subjects) and 'exist' (with inanimate subjects). This proposal is partly motivated by facts such as the following: If the subject is a 'first order nominal' (that is, a nominal denoting things (e.g. 'Socrates', 'this building'), as opposed to 'second order nominals' (that is, nominals denoting events, e.g. 'the demonstration'), the ordinary copula cannot occur with a locative or temporal predicate. Instead a verb such as 'live' or 'exist' occurs: 'Socrates lived in the fifth century B.C.' instead of \*'Socrates was in the fifth century B.C.'. Lyons concludes that in sentences of this kind 'live' and 'exist', like 'be', are purely grammatical dummies. This suggestion cannot be accepted without some reservations. Though it is true that verbs such as 'live' and 'exist' are not extremely loaded with semantic content, so to speak,

it is certainly wrong to regard them as merely "dummies".

This is verified by the fact that they have semantic relations with other expressions in the language, e.g.

'Socrates lived in the fifth century B.C.' implies 'At least in part of the fifth century B.C. Socrates was not dead'

and 'At least a part of the fifth century B.C. was after Socrates was born' (pure copula sentences such as 'The

demonstration was on Sunday' do not seem to have similar

implications). At any rate, to insist that 'live', 'exist'

etc. do have semantic content in sentences of this kind is not

necessarily to deny that their main *raison d'être*, as far as

such sentences are concerned, could be to serve as 'loci' for

the indication of tense, mood and aspect, that is, to function

like copulas. Let me call such verbs 'quasi-copulas'.

Lyons includes among his copulas also such verbs as

'occur', which can replace the copula 'to be' in sentences

from which the latter is not obligatorily excluded. E.g.:

'The demonstration was on Sunday' - 'The demonstration

occurred on Sunday'. The term 'quasi-copula' will be used

here for verbs of the latter kind as well.

Whether a certain root is a quasi-copula or not is

largely determined by the decision what should be the form of

the B.P. underlying formations that include this root. Suppose

one decided to take 'n(t) [live]' (It' = time) as the under-

lying B.P. of 'Socrates lived in the fifth century B.C.'.

Then 'live' must be regarded as a "full" predicator; the

features 'first order' and 'animate' implied by 'Socrates'

and the feature 'location in time' implied by 'in the 5th

century B.C.' must be viewed as redundant, since they are

"required" by the predicator. If, on the other hand, one

decided to take as the underlying B.P. of the above mentioned

sentence 'n [in the fifth century B.C.] ', then any formation derived from this B.P. must include a copula or a quasi-copula. Each rule introducing such elements will operate after U.I., since the question what particular copula or quasi-copula is to be selected can be answered only with reference to each particular value of 'n'. If the value of 'n' is first order and animate, then the quasi-copula 'live' must be selected. Semantically it will be empty since its selection will be automatic.

The very fact that one may choose between two possible B.P.s for formations such as 'Socrates lived in the fifth century B.P.' justifies the term 'quasi-copulas'. The genuine copula does not allow for such a choice. E.g. 'The demonstration was on Sunday' cannot be derived from 'n (t) [be]' just from 'n [on sunday] '. Furthermore, genuinely "full" predicators such as 'eat' also have just one, uniquely determined B.P.. The B.P. of 'John ate on Sunday' can be only 'n [eat] ', not 'n [on sunday] '.

The relevancy of the aforesaid to the present discussion is in the fact that, with two exceptions, -Dynamic quasi-copula in C.I.H. do not require the Aktionsart contrast ' $\{\phi\}$ '. The exceptions are  $\text{?}/\phi$  -r-x 104 and  $\{-h-j/\phi$  933.

All quasi-copulas in C.I.H. are +Durational, except  
-Gradational

k-r-j/ $\phi$  546 which is -Durational .  
-Gradational

One root occurs both in non-ergative formations, with Hithpa'<sup>el</sup>, and in ergative formations, with Pi'<sup>el</sup>:  $\{-t-f$  989.

Ex. 111.

- a. jo'sef hi {ta'tef bamis'xakbme}ex xci {a?a v az  
'Joseph participated in the game for half an hour, and  
?a'zav  
then left'.
- b. hem hex'litu l{a'tef o'to bamis'xak  
'They decided to let him participate in the game'
- c. \* jo'sef ha'ja bamis'xak  
'Joseph was in the game'

Ex. 111.c. is unacceptable only if interpreted 'Joseph took an active part in the game'. If interpreted 'Joseph was present where the game took place' (say, as a spectator) it is acceptable.

In formations derived from 'n, in [-t-f]' each value of 'n' must be an animate first-order nominal, and each value of 'in' a second order nominal denoting an event with active participants. If one decides to take 'n' [bamis'xak] rather than 'n, in [-t-f]' as the B.P. of Ex. 111.a., then one must regard {-t-f} as a quasi-copula.

The following quasi-copulas occur in non-ergative B.P.s only, with Pi'el: b/v-k-r 151, k-x-v 565, s-x-k 896, {-r-t} 985.

Ex. 112.

- a. hu {e'ret bac'ava b'me}ex {na'taim  
'He served in the army for two years'
- b. hu ha'ja baca'va bme}ex {na'taim  
'He was in the army for two years'

Ex. 112.a. and b. are nearly synonymous. Each value of 'n' is an animate first order nominal. The predicator

(baca'va) indicates a service of a kind (the army, the reserves, the peace corps etc.)

Ex. 113.

- a. hu si'xek (ki'xev / hi'ta'tef) b {nei sra'tim  
'He played (starred / participated) in two films'
- b. hu ha'ja b {nei sra'tim  
'He was in two films'

The only possible meaning that can be attached to Ex. 113.b. is 'He saw these films, attended them as a spectator'.

Notice that sra'tim are specific instances of "events with active participants". This explains why k-x-v 565 and s-x-k 896 can substitute {-t-f 989. To play or star is to take an active part in a play or a film etc.

The following roots occur in non-ergative formations only, with Hithpa'el: r-x- 810, {-j-x 1009.

Ex. 114.

- a. hu hi { ta'jex la?ir'gun ha'ze  
'He belonged to this organization'
- b. hu ha'ja ba?ir'gun ha'ze  
'He was in this organization'

Ex. 114.a. and b. are nearly synonymous. If their underlying B.P. is taken to be 'n [ha?ir'gun ha'ze] ' rather than 'n, ge [-j-x] ', the root {-j-x 1009 must be regarded as a quasi-copula. The predicator (in Ex. 114.a. - ha?ir'gun ha'ze) must denote some organization, and each value of 'n' must be a first order, animate and human nominal denoting a member in the organization.

Ex. 115.

- a. haj'ta li hargaxa {ehar'be me ha 'xevre lo jod'zim  
'I had a feeling that many of the boys don't know  
{e hada'var haga'dol vhano'ra ha'ze lo'med lhitra'xe} (A.)  
that this great and terrible thing is going to happen'
- b.\* hahafga'na hitra{x}a (haj'ta) bmer'kaz ha'zir  
'The demonstration happened (was) in the centre of the city'

Though ha'ja is not inappropriate, hitra'xe is preferable. The subject must be a second order nominal, denoting an event, usually an event which is not specifically marked as being planned or directed.

The following roots occur in non-ergative B.P.s only, with Pa'al: g-r 431a, k-r-j/φ 466, x-s-r 1181 and x-j-j/φ 1216  
With Niph'al: ʔ/φ-d-r 68, m-c-ʔ/φ 604, m-{x 629}-ʔ/φ-r 918 and v/j/φ -x-\* 1103. With Pi'el: b/v-l-j/φ 166.

Ex. 116.

- a. hu (\*ze) (ha'ja) noxax (ha'ja) {am et'mol  
'He (it) (was) present (was) there yesterday'
- b. hu (\*ze) niʔ'dar mi (lo ha'ja) {am et'mol  
'He (this) was absent from (was not) there yesterday'
- c. ata bchol zot niʔ'lac lhiʔ'a'der lifʔa'mim m  
'You in any case (are) compelled to be absent sometimes  
haharca'ʔot (A.)  
from the lectures'
- d. om'nam zo lo haj'ta milxa'ma ri{o'na. hajiti  
'True, this was not a first war. I was

kcat bsinai (A.)

for a short while in the Sinai campaign'

e. hu /ze nim'ca (ha'ja) }am et'mol

'He/this was present (was) there yesterday'

f. hu (\*ze) gar badi'ra ha'zot bme'ex }a'lo }anim

'He (this) lived in this flat for three years'

g. no'ladti b ra'mat gan v xa'jiti }am ad

'I was born in Ramatt Gan and lived there till

ha'ca'va (A.)

my army service'

h. hu (\*ze) xai b'anglia bame'?a ha }li'it

(He (\*this) lived in England in the third century'

i. hat?u'na (\*hahafga'na) kar'ta et'mol bar'xov

'The accident (\*the happened yesterday in the main demonstration)

hara' }i

road'

j. hahafga'na nim }'xa (haj'ta b'me'ex) }a'lo }a'ot

'The demonstration went on for (was during) three hours'

v/j/ø -x-# 1103, and its contradictory  $\bar{v}/\bar{j}/\bar{\phi}$  -d-r 68 are restricted to animate subjects. m-c- $\bar{v}/\bar{j}/\bar{\phi}$  664 and x-s-r 1181 are nearly synonymous with  $\bar{v}/\bar{j}/\bar{\phi}$  -d-r 68 and v/j/ø -x-# 1103, but each of the latter can take either animate or inanimate subjects. In the B.P.s underlying formations such as Ex. 116.a. h. the predicator is a locative expression, and the subject ranges over first-order nominals.

In Ex. 116.h. the predicator must denote a dwelling a place for residence. The subject must be an animate first order nominal. The root k-r-j/ø 546 has all the characteristics of r-x- (810, except that the latter is +Durational and the former is -Durational. In the B.P. underlying sentences such as Ex. 117 j. the predicator must be a temporal expression and the subject a second order nominal.

## 2.7. I.F. Roots in ergative B.P.s only.

In accordance with 2.1.6 (cf. p.143 ) if a root defines an ergative B.P. only or a non-ergative B.P. only this does not necessarily imply that the grammar must treat this root as belonging to a class that is different from the class of roots defining both ergative and non-ergative B.P.s. The different traits of different roots in this respect constitute lexical rather than grammatical facts. Therefore, the roots which define ergative B.P.s only will all be assigned to type F.

Most roots in ergative B.P.s only are +Dynamic (cf. p.140f ). Many of them are -Durational and denote a single, -Gradational momentary action. However, some are +Durational (cf. p.141 ). -Gradational

Ex. 117.

a. \* ho'sef na'car et hāro've 'bme(ex xci }a'a

'Joseph locked the rifle during half an hour'

b. jo'sef ra'xac et hamxo'nit 'bme(ex xci }a'?a

'Joseph washed the car during half an hour'

A few roots are -Dynamic (and therefore non-active), The reason for including these roots in I.F. are not



semantic but purely syntactic. These roots share certain formations, e.g. the formations realizing the passive converse of the B.P., with genuine ergative roots, that is with roots that are active in meaning, they do not contract the Aktionsart category '{<sup>o</sup>}', and so forth.

Ex. 118.

a. jo'sef<sub>lao</sub> ka'taf<sub>o</sub> et ha tapu'xim<sub>lgo</sub>

'Joseph picked the apples'

b. ha tapu'xim<sub>lgo</sub> nikt'fu<sub>o</sub> al jdei jo'sef<sub>lao</sub>

'The apples were picked by Joseph'

c. kti'fat<sub>o</sub> hatapu'xim<sub>lgo</sub> al jdei jo'sef<sub>lao</sub>

'The picking of the apples by Joseph'

d. (ba mi'la jo'sef) ha ?ot ' 7 'lao o'kevet et ha ?ot

(In the word 'Joseph') the letter ' 7 ' follows the letter

' U 'lgo

' U '.

e. (ba mi'la jo'sef) ha ?ot ' U 'lgo ni? 'kevet<sub>o</sub> al jdei

'(In the word 'Joseph') the letter ' U ' is followed

ha ?ot ' 7 'lao

by the letter ' 7 '.

f. ?ki'vat<sub>o</sub> ha?ot ' U 'lgo al jdei ha?ot ' 7 'lao

'The following of the letter ' U ' by the letter ' 7 '

(bami'la jo'sef)'

(in the word 'Joseph')'.

g. jo'sef<sub>n</sub> {a'xav<sub>o</sub> (al hami'ta)

'Joseph lay (on the bed)'

h.\* {xi'vat<sub>o</sub> Jo'sef<sub>n</sub> (al ha mi'ta)

'The lying of Joseph(on the bed)'

i. ha {xi'va {el jo'sef<sub>n</sub> (al ha mi'ta)

'The lying of Joseph (on the bed)'

The B.P. instantiation underlying Ex. 118.a. is

'jo'sef<sub>lao</sub>, ha tapu'xim<sub>lgo</sub> [k-t-f]<sub>o</sub>' The B.P. 'a,g [k-t-f]

is active, that is, it is included in the B.P. 'a,g [perform an action on]'. It is, then +Dynamic. The B.P. instan-

tiation underlying Ex. 118.d. is 'ha?ot' q' 'lao, ha?ot' U' 'lgo

[ʔ/φ-k-v]<sub>o</sub>. The instantiation underlying Ex. 118, e, f, is the latter's converse 'ha?ot' U' 'lgo, ha?ot' q' 'lao [ʔ/φ-k-v]<sub>o</sub>.

'a,g [ʔ/φ-k-v]' is not active, in other words, it is not included in 'a,g [perform an action on]<sub>o</sub>. Nevertheless the variables of the former were assigned the same labels as the variables of the latter, that is, k-t-f and ʔ/φ-k-v were presented as belonging to the same B.P.-type. The justification for this is purely syntactic, the structural identity of the formations in Ex. 118 a-d, b-e and c-f.

From Ex. 118 g and h. one sees that the non-ergative -Dynamic root {-k/x-v does not occur in the same formations as k-t-f and ʔ/φ-k-v.

As mentioned in p.112, some content-object roots and internal object roots define ergative-only B.P.s, such that the content-object or the internal-object is a value of 'g'.

A content-object or internal-object root will be regarded as one which defines an ergative-only B.P. rather than as one which defines a non-ergative only B.P. if, besides being +Dynamic and rejecting '{φ}' it shares some formations with genuine ergative roots.

Ex. 119.

a. hi hir'gi)a {ehu kvar lo ?o'hev ?o'ta

'She felt that he any more did not love her'

b. hur'ga} al ja'da {e hu kvar lo ?o'hev ?o'ta

'Was felt by her that he any more did not love her'

c. harga{a'ta {ehu kvar lo ?o'hev ?o'ta...

'Her feeling that he any more did not love her...'

Ex. 119.b. and c. are, respectively, the formation realizing the passive converse of Ex. 119.a. and the nominalization of the latter. Since r-g-} 767 defines a B.P. that has a passive converse and a nominalization of this kind one may regard this B.P. as an ergative one and render it 'a,g [r-g-}', ignoring the fact that the values of 'g' can be designated by the label 'f' as well.

Many ergative-only roots can be assigned the B.P. - type 'b,  $\begin{smallmatrix} bt \\ by \end{smallmatrix}$  [R]' or 'dr,  $\begin{smallmatrix} dp \\ dd \end{smallmatrix}$  [R]' as well as 'a,g  $\begin{smallmatrix} [R] \\ x \end{smallmatrix}$ ' (cf. p.243). From a purely syntactic viewpoint the latter is perhaps preferable, since roots of this kind share most formations with ordinary ergative-only roots.

Ex. 120.

a. jo'sef ma'xar et hasefer lda'vid

'Joseph sold the book to David'

b. ha'sefer nim'kar lda'vid al jdei jo'sef

'The book was sold to David by Joseph'

c. mxi'rat ha'sefer lda'vid al jdei jo'sef

'The selling of the book to David by Joseph'

However, if semantic facts are also taken into account

one would perhaps prefer the formulation 'b,  $\underset{\text{by}}{\text{bt}}$  [R] ' or.

' $\underset{\text{dd}}{\text{dr, dp}}$  [R] ' This formulation shows explicitly the

semantic similarity between, say, 'b,  $\underset{\text{by}}{\text{bt}}$  [m-k/x-r] ' and 'b,  $\underset{\text{by}}{\text{bt}}$

[n-t-n] ' etc.. Besides this it enables one to describe conveniently the relations between semantically related roots such as m-k/x-r 614 and k-n-j/ø 526, n-t-n 716 and k-b-l 484a. Each member in such a pair is the double converse of the other:

'b,  $\underset{\text{by}}{\text{bt}}$  [m-k/x-r] '  $\equiv$  '  $\underset{\text{bt, b}}{\text{by}}$  [k-n-j/ø] '  $\equiv$  '  $\underset{\text{bt, b}}{\text{by}}$  [m-k/x-r] ' (the symbol '  $\cup$  ' marks a double converse).

m-k/x-r 614 and k-n-j/ø 526 are usually interpreted as differing from each other in that 'b,  $\underset{\text{by}}{\text{bt}}$  [m-k/x-r] ' is included in 'b,  $\underset{\text{by}}{\text{bt}}$  [act upon] ' whereas '  $\underset{\text{bt, b}}{\text{by}}$  [k-n-j/ø] ' is included in '  $\underset{\text{bt, b}}{\text{by}}$ ,  $\underset{\text{by}}{\text{bt}}$  [act upon] '.

Stated informally, when m-k/x-r is concerned, the active party is the seller and when k-n-j/ø is concerned the active party is the buyer. This interpretation is, however, not a necessary one, since there are contexts in which a buyer is not a purposeful actor.

Therefore, this distinction between m-k/x-r 614 and k-n-j/ø 526, and similar pairs of roots, will be ignored here. Each will be regarded as the double converse of the other and as the latter's equivalent.

Some roots which belong to the same B.P.-type as k-n-j/ø 526 have no double converse in C.I.H.. E.g., the root s-x-t 898, which defines the B.P. ' $\underset{\text{dd}}{\text{dr, dp}}$  [s-x-t] ' has no double converse ' $\underset{\text{dp, dr}}{\text{dd}}$  [s-x-t] '.

Some content-object roots can be described as belonging to the B.P.-type 'b,  $\underset{\text{by}}{\text{bt}}$  [R] ', where '  $\underset{\text{by}}{\text{bt}}$  ' ranges over the content objects, e.g. the root r-m-z 783.

1. I.f.1. ergative-only roots, with Pa' al

I.f.1 is related to I.A.2. The difference between the two is lexical rather than grammatical (cf. p. 143 ).

The following roots are <sup>+ Durational</sup> <sub>- Gradational</sub>: ʔ/ə-d-r 67, ʔ/ə-k-v 76, ʔ/ə-k-v 77, ʔ/ə-r-z 106, ʔ/ə-x-l 122, b/v-d-d 138, b/v-ʔ-n 192, b/v-ʔ-ʃ 196, c-l-ʔ 232, c-r-x 246, d-f-k 270, d-g 273, d-n 294, d-ʃ 304, f/p-k-d 332, g-n-z 430, g-r-r 438, g-z-m 451, g-z-r 453, g-z-r 454, h-g-j/ə 460, k-c-r 492, k-d-ʔ 500, k-r-ʔ/ə 533, k-r-t 543, l-k-ʔ 591, l-ʃ 594, m-c-c 606, m-d-d 607, m-d-d 608, n-ʔ/ə-l 642, n-g-ʔ 679, r-k-m 773, r-ʃ-m 792, r-ʔ-c 806, s-f/p-r 833, s-k-l 839, s-l-l 853, s-r-k 878, ʃ-f/p-t 931, ʃ-l-l 950, ʃ-m-r 971, ʃ-t-j/ə 996, t-f-r 1027, t-l-j/ə 1040, t-m-x 1044, t-r-f 1052, x-b/v-ʃ 1107, x-f/p-f 1116, x-g-g 1118, x-g-r 1119, x-k-r 1122, x-l-v 1144, x-r-ʃ 1166, x-s-x 1182, z-l-l 1277, z-r-ʔ/ə 1290. Altogether-fifty five roots.

The following are <sup>- Durational</sup> <sub>- Gradational</sub>: ʔ/ə-c-r 64, ʔ/ə-m-d 85, ʔ/ə-m-r 90, ʔ/ə-n-s 94, ʔ/ə-n-j/ə 97, ʔ/ə-s-r 111, ʔ/ə-s-r 112, ʔ/ə-z-r 127, ʔ/ə-z-v 128, b/v-c-r 133, b/v-l-ʔ/ə 158, b/v-r-ʔ/ə 169, b/v-ʔ-r 195, c-d 214, c-l-v 228, d-l-j/ə 289, d-n 295, d-r-s 298, d-r-ʃ 299, d-r-ʃ 300, d-ʔ-j/ə 313, d-ʔ-j/ə 314, f/p-d-j/ə 323, f/p-r-c 354, f/p-r-s 361, f/p-r-t 368, f/p-s-l 376, g-n-v 426, g-r-m 436, g-z-l 450, h-d-f 456, k-b/v-ʔ/ə 473, k-b/v-ʔ/ə 474, k/x-b/v-ʃ 487, k-l-ʔ/ə 505, k-n-s 522, k-n-j/ə 526, k/x-t-v 562, k-t-f 559, l-g-m 583, l-k/x-d 586, l-k-ʔ 591, l-m-d 592, l-ʔ-ʃ 600, m-c-ʔ/ə 605, m-h-l 610, m-k/x-r 614, m-s-r 626, m-ʃ-x 631, m-ʃ-x 632, m-z-g 640, n-ʔ/ə-l 642, n-c-r 660, n-g-ʔ 679, n-k-t 688, n-ʃ-x 712, n/ə-t-ʔ/ə 713, n/ə-t-n 716, n-ʔ-l 727, r-c-ʔ 758, r-k/x-ʃ 774, r-m-s 782, r-m-z 783, r-t-m 798, s-k/x-r 849, s-l-x 854, s-m 855,

s-~~x~~-t 898, s-~~x~~-v 901, {-2/o-f 910, {-2/o-l 914, {-b/v-j/o 926,  
 {-d-d 927, {-k-l 939, {-l-l 948, {-l-l 950, {-l-~~x~~ 959,  
 {-~~x~~-t 1008, t-b/v-2/o 1021, t-b/v-2/o 1023, t-b/v-l 1024,  
 t-r-m 1054, v-r-k 1085, v/j/o-r-j/o 1091, v/j/o-s-d 1093,  
 x-g-r 1119, x-k/x-r 1123, x-n-t 1155, x-n-x 1157, x-{-d 1183,  
 x-{-v 1192, x-t-f 1199, x-t-f 1200, z-k-f 1267, z-n-~~x~~ 1289.  
 Altogether- ninety one roots.

## 2. I.F.2. With Pa'al and a preposition

With the great majority of roots in I.F.1 each value of the variable 'g' (or, for that matter, 'bt' or 'dp') is realized in formations as a "direct object", that is, if it is indefinite it is immediately preceded by no preposition; if it is definite it is immediately preceded by the preposition 'et'.

Ex. 121

at bo'na et ha dva'rim kmo mo'ra (A.)  
 'You build the things (you say) like a teacher'

b. hu ba'na binjan mi kubi'jot  
 'He built a building of [play] bricks'

The exceptions are 2/o-k-v 76, 2/o-s-k 109, b/v-~~x~~-r 195, d-n 294, {-m-r 972, t-m-x 1044 and v/j/o-r-j/o 1091.

2/o-k-v 76 takes the preposition ?axrei. d-n 294 and {-m-r 972 the preposition al. the rest - the preposition b.

A number of roots that occur with Pa'al in ergative formations only and take an "indirect object" (i.e., each value of 'g' must be preceded by a preposition) were not included in I.f.1, since they have no formations realizing the passive converse. In order to mark this syntactic fact explicitly the variable-label 'qb' was used instead of 'g' (or bt or dp) in the B.P.-types of these roots (cf. p. 290).

## Ex. 122

a. hu ni'ga) v na'ga? ba'kotel (A.)  
'He came near and touched the wall'

b. \*ha'kotel ninga? al jdej jo'sef  
'The wall was touched by Joseph'

compare

## Ex. 123

a. mdab'rim al ze, da'nim bze (A.)  
'They talk about it, discuss it'

b. ze niddon al jdeihem  
'It was discussed by them'

It will be recalled that a number of roots which occur in non-ergative formations only require that in formations realizing their B.P.s the second coordinate be preceded by a preposition. (cf. p. 63). The question arises, then, what justification is there to the decision to classify indirect object roots as ergative only rather than as non-ergative only. The main justification is the fact that non-ergative-only indirect-object roots are normally +Agentive, therefore +Dynamic and many of them are -Durational, whereas non-ergative-only preposition-roots are normally -Dynamic (therefore -Agentive) and only few of them are -Durational. Another justification is the fact that non-ergative preposition roots either require ' $\left\{ \begin{smallmatrix} \circ \\ \nearrow \end{smallmatrix} \right\}$ ' (e.g.  $\{-l-t\}$  956) or belong to one of those classes of roots which do not require ' $\left\{ \begin{smallmatrix} \circ \\ \nearrow \end{smallmatrix} \right\}$ ' but have certain semantic or syntactic characteristics which ' $\left\{ \begin{smallmatrix} \circ \\ \nearrow \end{smallmatrix} \right\}$ ' roots lack (cf. p. 208). Ergative-only indirect-object roots on the other hand, do not require ' $\left\{ \begin{smallmatrix} \circ \\ \nearrow \end{smallmatrix} \right\}$ ' and cannot be assigned to any clearly-defined, uniquely determined class.

The following roots are +Durational  
-Gradational: ?/q-r-v 103,  
x-t-r 1206.

The rest are -Durational  
-Gradational: b/v-?/q-t 132, b/v-g-d 143,

b/v-~~x~~-r 194, c-l-f 224, d-~~z~~/a-g 260, d-r-x 301, f/p-~~z~~/o 377, g-~~z~~/o-r 399, g-b/v-r 406, k-l-~~z~~/o 506, m-~~z~~/o-l 601, k-r-c 537, l-~~z~~/o-g 574, l-~~x~~-c 598, m-x-j/o 636, n-g-~~z~~/o 675, n-z-f 732, x-t-~~z~~/o 1197, ~~x~~-l-k 1223, z-~~x~~-j/o 1274.

The root ~~z~~/o-r-v 103 may appear <sup>+Dynamic</sup><sub>-Agentive</sub>, since it is similar in meaning to roots such as ~~z~~-k/x-v 945 notice, however, that of ~~z~~-k/x-v 945 (and also ~~z~~/o-m-d 86 etc.) can be predicated of a dead body or an inanimate object (cf. p. 148) whereas ~~z~~/o-r-v 103 and must take an inanimate object and suggest intentional behaviour.

Ex. 124.

<sup>z</sup>a'ravnu la'hem }am }<sup>z</sup>a'taim  
'We lay in wait for them there for two hours'

Ex. 125.

\*jo'sef ka'rac la b'me }ex }<sup>z</sup>a'taim  
'Joseph winked her for two hours'

### 3. I.F.3: Ergative-only roots, with Hiph'il.

I.F.3 is related to I.A.1, I.A.3 and I.A.5.

The following roots are <sup>+Durational</sup><sub>-Gradational</sub>: ~~z~~/o-m-s 91, ~~z~~/o-t-k 117, b/v-r-~~z~~ 177, d-f/p-s 272, d-r-x 303, f/p-r-~~z~~/o 349, f-r-~~z~~/o 350, f-r-~~z~~ 362, f/p-~~z~~-t 380a, k-c-~~z~~/o 489, k-m 515, k/x-n-n 521, n-x-j/o 722, r-~~z~~/o-~~z~~ 749, r-c-j/o 760, r-~~x~~ 805, ~~z~~-k-j/o 946, t-~~z~~/a-n 1016, t-r-d 1050, v/j/a-v-l 1079, v-r-~~x~~ 1088, x-l-k 1134, x-~~z~~-r 1186, x-t-f 1210, z-n-~~x~~ 1288.

Ex. 126.

hix'zakti, anixo' } evet, eize }vu'aim et ha dva'rim }e'la  
'I held, I think, for about two weeks her things'

The rest are <sup>-Durational</sup><sub>-Gradational</sub>: ~~z~~/o-l-179, ~~z~~/o-l-m 80, ~~z~~/o-n-~~z~~ 95, ~~z~~/a-~~z~~-m 114, b/v-d-l 141, b/v-~~x~~-n 193, c-f 218, c-h-r 222, c-l-f 225, d-b-r 265, d-g-m 276, ~~d~~-~~x~~ 308, f-c-c 318,



f-k-ʔ/ə 329, f-k-d 330, f-l-k 340, f-l-j/ə 345, f-r-ʃ 363,  
 f-ʃ-l 378, f-ʃ-t 393, g-d-r 411, g-n-v 427, g-z-m 452, k-b-l  
 481, k-c-v 494, k-n-j/ə 525, k-r-ʔ/ə 534, k-r-n 539, k-x-ʃ 564,  
 l-ʔ/ə-m 575, l-b-ʃ 580, l-v-j/ə 595a, l-x-m 596, m-c-ʔ/ə 603,  
 n/ə-c-g 654, n/ə-c-g 655, n/ə-k-r 684, n/ə-k-r 685, n/ə-k-j/ə  
 692, n-ʃ 724, n-ʃ-l 727, r-g-ʃ 767, r-ʃ-ʔ/ə 795, s-b-r 821,  
 s-k-m 844, s-m-x 860, s-v/j/ə-g 889, s-v/j/ə-r 891, ʃ-ʔ/ə-l 913,  
 ʃ-k-ʔ/ə 935, ʃ-m-c 964, ʃ-p-ʔ/ə 978, ʃ-p-l 980, ʃ-t-k 992,  
 ʃ-v-j/ə 1001, x-r-ʔ/ə 1161, t-k-f 1032, t-k-n 1033, t-k-n 1034,  
 t-l 1035, t-l 1036, t-r 1048, v-d-l 1070, v-k-ʔ/ə 1074, v-n  
 1081, v-r-k 1085, v/j/ə-r-ʃ 1087, v/j/ə-r-j/ə 1089, v-s 1092,  
 v/j/ə-x-ʃ 1102, x-b-ʔ/ə 1104, x-l-f 1129a, x-l-t 1143, x-m-c  
 1147, x-r-m 1164, x-r-m 1165, k/x-r-z 1173, x-s-r 1180,  
 x-ʃ-r 1186, x-t-f 1200, x-t-r 1205, z-ʔ/ə-k 1257, z-h-r 1262,  
 z-m 1278, z-m-n 1279, z-m-n 1280, z-r-ʔ/ə 1291.

4. I.F.4: "indirect-object" roots, with hiph'il.

The roots are: ʔ/ə-m-n 88, ʔ/ə-r-m 102, c-b-ʔ/ə 208,  
 c-d-ʔ/ə 215, r-b-c 753, ʃ-k-l 939, v/j/ə-d-j/ə 1073, v-l-g 1080,  
 ʔ/ə-m-n 88 and ʃ-k-l 939 are <sup>+Durational</sup>  
<sup>-Gradational</sup>. The rest are  
 - Durational  
 - Gradational.

Ex. 126

- a. hu hic'biʔ al zug 'baal hofa'ʔa xico'nit na'ʔa  
 'He pointed at a couple with a nice outward appearance  
 v ʔa'mar: ox, hem kol kax nexma'dim (A.)  
 and said: ah, they are so nice'
- b. \* hazug huc'baʔ al jdei jo'sef  
 'The couple was pointed at by Joseph'

5. I.F.5: roots in ergative B.P.s-only, with Pi'el.

This subclass is related to I.A.4.

The following roots are <sup>+Durational</sup> <sup>-Gradational</sup>: ?/ə-b-d 2,  
 ?/ə-m-n 32, ?/ə-n-j/ə 35, ?/ə-p-r 36, b/v-d-r 142, b/v-r-r 175,  
 b/v-r-r 176, c-p-j/ə 239, c-j-r 254, d-b-r 267, d-l-l 288,  
 f/p-d-r 322, g-h-c 412, g-l-~~x~~ 420, g-p-f 431, g-r-d 433,  
 g-r-f 435, k/x-b-s 486, k-l-l 509, k-j-m 568, k/x-j-r 572,  
 m-~~}-~~ 627, n-g-v 678, n-k-d 682, n-k-z 693, n-s-r 700,  
 n-~~x~~-~~}~~ 730, r-c-f 757, r-s-s 790, s-b-n 820, s-k-l 840,  
 s-p-r 873, s-r-k 879, s-t-t 885, s-j-d 905, ~~}-p-c~~ 979,  
~~}-r-t~~ 986, x-n-x 1158, x-~~}-~~ 1189, z-b-l 1259.

Ex. 127.

ze lakax li }?a'taim lxa'bes et ze (A.)  
 'It took me two hours to wash it'

The rest are <sup>-Durational</sup> <sup>-Gradational</sup>: ?/ə-k-l 18, ?/ə-m-c 28,  
 ?/ə-m-d 29, ?/ə-p-s 37, ?/ə-t-r 47, ?/ə-j-~~}~~ 56, ?/ə-j-t 57,  
 ?/ə-g-f 72, b/v-~~}/ə-r~~ 130, b/v-d-d 137, b/v-d-d 138, b/v-k-r  
 152, b-l-f 159, b/v-s-m 179, b-s-r 180, b/v-t-~~}/ə~~ 184, b/v-t-~~}/ə~~  
 185, b/v-j-l 197, b/v-j-m 198, c-l-m 227, c-p-j/ə 239,  
 c-t-t 248, c-j-d 250, c-j-n 252, d-b-r 265, d-g-l 275,  
 d-m-j/ə 293, d-r-g 297, d-~~}-n~~ 305, d-v-v 306, d-v-~~x~~ 307,  
 f-l-~~x~~ 344, f/p-r-~~}~~ 365, f/p-r-t 367, f/p-s-k 372, f/p-t-r 283,  
 f/p-t-j/ə 389, g-d-r 410, g-l-m 416, g-l-m 417, g-n-j/ə 428,  
 g-r-~~}~~ 440, g-r-z 442, h-l-l 461, h-k-j/ə 461a, k/x-b-d 476,  
 k/x-b-d 477, k-b-l 484a, k-l-~~x~~ 513, k/x-n-j/ə 527, k-n-~~x~~ 528,  
 k/x-t-r 561, k-j-m 570, l-k-k 588, m-k-m 612, n-~~}/ə-r~~ 646,  
 n-c-l 657, n-c-~~x~~ 665, n-d-v 672, n-k-r 687, n-k-j/ə 690,  
 n-s-j/ə 701, n-s-x 704, n-~~}-l~~ 708, r-p-d 785, s-d-d 824,  
 s-d-r 827, s-d-r 828, s-k-m 843, s-l-k 851, s-l-k 852,  
 s-p-k 869, s-p-r 872, ~~}-b-~~x~~~~ 925, ~~}-d-l~~ 929, ~~}-d-r~~ 930,  
~~}-k-f~~ 937, ~~}-k-m~~ 940, ~~}-l-m~~ 955, ~~}-m-r~~ 969, ~~}-n-n~~ 974,  
~~}-~~x~~-d~~ 1005, t-~~}/ə-m~~ 1013, t-~~}/ə-r~~ 1019, t-k-n 1034, t-v-~~x~~ 1058,

t-j-k 1059, v-d-?/ø 1066, x-k-j/ø 1124, x-l-k 1135a, x-m-  
 1151, x-s-n 1179, x- $\int$ -v 1193, x-t-?/ø 1198, x-t-l 1201,  
 x-j-g 1209, x-j-l 1210, x-j-v 1211, x-j-v 1213 j-?/ø-r 1226,  
 j-c-?/ø 1230, j-c-g 1231, j-c-r 1232, j- $\int$ -r 1245, j-v-?/ø 1247,  
 j-~~x~~-s 1252, j-~~x~~-s 1252, j-~~x~~-s 1253, z-h-j/ø 1264, z-k-j/ø  
 1272, z-k-j/ø 1275, z-m-r 1283.

Ex. 128.

\*hu bi'jel et hamix'tav b'me $\int$ ex {a'?'a  
 'He stamped the letter during an hour'

#### 6. I.F.6: "Indirect object" - roots with Pi'el

The following roots are <sup>+Durational</sup>  
<sup>-Gradational</sup>: ?/ø-t-t 48,  
 ?/ø-j-n 55, x-t-t 1207, x-z-r 1220.

Ex. 129.

et'mol kol ha'?'erev ?i'janti bkol minei  
 'Yesterday the whole evening I was reading all sorts of

kata'logim (A.)  
 catalogues'

The rest are <sup>-Durational</sup>  
<sup>-Gradational</sup>: ?/ø-~~x~~-l 50, ?/ø-j-m 54,  
 b/v-k- $\int$  155, c-j-t 256, f/p-k-~~x~~ 333, v-t-r 1097, x-p-j/ø 1160.

Ex. 130.

\* hu ci'jet lapkuda b'me $\int$ ex {?'a'taim  
 He obeyed the order for two hours'

#### 7. I.A.7: Indirect object roots, in ergative BP.s only, with Hithpa'el.

This subclass cannot be related grammatically to  
 any of the subclasses in I.A. It includes only nine roots.  
 These can be viewed as exceptions.

The roots are: ?/ø-l-l 22, ?/ø-l-m 23, n-k-m 683,  
 n-k-r 686, r-~~k~~-z 779, r-p-k 786, s-k-l 841,  $\int$ -m- $\int$  973,  
 j-~~x~~-s 1254.

## 8. Double converse relations between roots in I.F.

Double converse relations such as the relation between k-n-j/q 526 and m-k/x-r 614 (cf. p. 231) hold between a number of roots in I.F. Some roots defining the B.P.-type b, <sup>by</sup>bt [R]<sub>o</sub> and taking Hiph'<sup>u</sup>il in formations have the double converse <sup>by</sup>by, <sup>bt</sup>b [R] which takes Pa'<sup>u</sup>al in formations.

Ex. 131.

- a. Jo'sef his'kir di'ra lda'vid  
'Joseph rented a flat to David'
- b. hadi'ra husk'ra lda'vid al jdei jo'sef  
'The flat was rented to David by Joseph'
- c. da'vid sa'xar di'ra mimjo'jo'sef  
'David rented a flat from Joseph'
- d. hadi'ra nisk'ra al jdei da'vid mi jo'sef  
'The flat was rented by David from Joseph'
- e. jo'sef hix'kir sa'de lda'vid  
'Joseph leased a field to David'
- f. hasa'de hux'kar lda'vid al jdei jo'sef  
'The field was leased to David by Joseph'
- g. da'vid xa'xar sa'de mi jo'sef  
'David leased a field from Joseph'
- h. hasa'de nix'kar mi josef al jdei da'vid  
'The field was leased from Joseph by David'
- i. jo'sef hi' } '?il 'sefer lda'vid  
'Joseph lent a book to David'
- j. ha'sefer hu' } '?al lda'vid al jdei jo'sef  
'The book was lent to David by Joseph'
- k. da'vid { a' ?al 'sefer mi jo'sef  
'David borrowed a book from Joseph'
- l. ha'sefer ni' } '?al mi jo'sef al jdei da'vid  
'The book was borrowed from Joseph by David'
- m. jo'sef hil'va 'kesef lda'vid  
'Joseph lent money to David'

- n. ha'kesef hul'va lda'vid al jdei jo'sef  
'The money was lent to David by Joseph'
- o. da'vid la'va 'kesef mi jo'sef  
David borrowed money from Joseph'
- p. \*ha'kesef nil'va mi jo'sef al jdei da'vid  
'The money was borrowed from Joseph by David'
- q. \*ha'kesef hul'va mi jo'sef al jdei da'vid  
'The money was lent from Joseph by David'
- r. ma'kabi tel a'viv hin'xilu lhapo'el 'xaifa mapa'la  
'Makkabi Tel Aviv lent Hapoel Haifa a crushing  
mo'xecet  
defeat'
- s. mapa'la mo'xecet hun'la lhapo'el 'xaifa al jdei  
'A crushing defeat was lent to Hapoel Haifa by  
ma'kabi tel A'viv  
Makkabi Tel Aviv'
- t. hapo'el 'xaifa na'lu mapa'la mo'xecet mi ma'kabi  
'Hapoel Haifa took a crushing defeat from Makkabi  
tel a'viv  
Tel Aviv'
- u. mapa'la mo'xecet nin'la al jdei hapo'el 'xaifa  
'A crushing defeat was taken by Hapoel Haifa  
mi ma'kabi tel a'viv  
from Makkabi Tel Aviv'
- v. josef hixtif lo ma'kot  
'Joseph gave him blows'
- w. huxt'fu lo ma'kot al jdei jo'sef  
'Were given to him blows by Joseph'
- x. hu xa'taf ma'kot mi jo'sef  
'He received blows from Joseph'
- y. \*ma'kot nixt'fu al jadav mi jo'sef  
'Blows were received by him from Joseph'
- z. jo'sef ho'ri hon lda'vid  
Joseph inherited capital to David
- za. hahon ha'ra lda'vid al jdei jo'sef  
'The capital was inherited to David by Joseph'
- zb. da'vid ja'ra hon mi jo'sef  
'David inherited capital from Joseph'
- zc. \*hahon no'ra al jdei da'vid mi jo'sef  
'The capital was inherited by David from Joseph'

Ex 131 b, f, j, n, s and w illustrate passive converse formations of b, <sup>by</sup>bt [R] that is, they illustrate formations realizing

<sup>by</sup>bt, b [R]). Ex. 131 d, h, l, u, and y illustrate passive-

converse formations of <sup>by</sup>bt, b [R] (that is, they illustrate <sup>by</sup>bt, b [R]).

The roots l-v-j/a 595a, x-t-f 1200 and v/j/a-r- 1087 have no realization for '<sup>by</sup>bt, b [R]'. I find no explanation for this latter fact. The value of 'bt' with the root n-xl 727 is mapa'la 'defeat', or a word synonymous with it: 'tvu'sa' etc.

The values of bt with x-t-f 1200 are ma'kot 'blows', sti'rot 'slaps' and words with a similar meaning. Despite these restrictions on the semantic class of the values of 'bt' with these roots, they behave in every way like the other 'b, <sup>by</sup>bt [R]' - roots.

The Binyanim Pa'al and Hiph'il in the formations in Ex. 131 stand for no particular elements in the B.P.s. They are obligatory, "dummy" symbols. For example, the B.P.s underlying Ex 131 a. and c. are 'b, <sup>by</sup>bt [s-k/x-r]\_o'

and <sup>by</sup>bt, b [s-k/x-r]\_o respectively; no symbol represents the Binyanim Hiph'il and Pa'al. It may appear to one that the symbol 'č' (double converse) in the latter represents a feature that is realized by Pa'al in formations, and that the absence of this symbol from the former represents a feature that is realized by Hiph'il in formations. Notice however that sa'xar and its double converse his'kir are adequately

differentiated in formations through the order of the variables' values and the preposition used. In other words, the feature 'C' (double converse) is realized formally by the order of the variables' values and by the prepositions. The Binyan is redundant (cf. p. 141 ff.).

Now, many speakers of C.I.H. use the roots s-k/x-r 849, x-k/x-r 1123, {-z/q-l 913 and l-v-j/q 595a in sentences such as Ex. 131 c, g, k and o with Hiph'il rather than with Pa'al. They say 'jo'sef his'kir di'ra lda'vid' and 'da'vid his'kir di'ra mi jo'sef'. Since the difference between these two formations is independent of the distinction between Pa'al and Hiph'il this distinction can be dispensed with.

With some roots the double converse is realized by a different root in the same Binyan or by a different root in a different Binyan. In certain cases the same root serves as the double converse of a number of different roots.

Ex. 132

- a. jo'sef ma'xar 'sefer lda'vid  
'Joseph sold a book to David'
- b. ha'sefer nim'kar lda'vid al jdei jo'sef  
'The book was sold to David by Joseph'
- c. Da'vid ka'na 'sefer mi jo'sef  
'David bought a book from Joseph'
- d. ha'sefer nik'na mi Jo'sef al jdei da'vid  
'The book was bought from Joseph by David'
- e. Jo'sef natan lda'vid 'sefer  
'Joseph gave David a book'
- f. ha'sefer ni'tan lda'vid al jdei jo'sef  
'The book was given to David by Joseph'
- g. da'vid lakax mi jo'sef et ha'sefer  
'David took from Joseph the book'
- h. ha'sefer nil'kax mi jo'sef al jdei da'vid  
'The book was taken from Joseph by David'

- i. da'vid kibel mi jo'sef 'sefer  
'David received from Joseph a book'
- j. \*ha'sefer ku'bal al jdei da'vid mi jo'sef  
'The book was received by David from Joseph'
- k. Jo'sef hik'na lda'vid zxu'jot mjuxa'dot  
'Joseph gave David special rights'
- l. zxu'jot mjuxa'dot huk'nu lda'vid al jdei jo'sef  
'Special rights were given to David by Joseph'
- m. Jo'sef {a'lal mida'vid et hazxu'jot hamjuxa'dot {e'lo  
'Joseph denied David his special rights'
- n. hazxu'jot hamjuxadot {el da'vid ni{l'lu mimenu  
'The special rights of David were denied him  
al jdei jo'sef  
by Joseph'
- o. da'vid ki'bel zxu'jot mjuxa'dot mi jo'sef  
'David received special rights from Joseph'
- p. \*z xu'jot mjuxa'dot kub'lu mi jo'sef al jdei da'vid  
'Special rights were received from Joseph by David'
- q. jo'sef {a'la~~x~~ lda'vid mix'tav  
'Joseph sent David a letter'
- r. hamix'tav ni{l'la~~x~~ lda'vid al jdei jo'sef  
'The letter was sent to David by Joseph'
- s. da'vid ki'bel mix'tav mi jo'sef  
'David received a letter from Joseph'
- t. hitka'bel mi jo'sef mix'tav  
'was received from Joseph a letter'
- u. jo'sef {a'mar / si'per lda'vid {e hara'kevet hi'gi~~2~~a  
'Joseph said / told to David that the train arrived'
- v. ni~~2~~'mar lda'vid al jdei jo'sef {e hara'kevet hi'gi~~2~~a  
'was told to David by Joseph that the train arrived'
- w. da'vid {a'ma~~2~~ mi jo'sef {e hara'kevet hi'gi~~2~~a  
'David heard from Joseph that the train arrived'

As is seen from Ex. 132 kibel is the double converse of na'tan,  
hik'na and {a'la~~x~~

The double converse of a +Agentive root is usually  
+Agentive as well (cf. p. 231). This is the case, for  
instance, with n/b-t-n 716 and l-k-~~x~~ 591. Both are +Agentive.



'b, bt [n/a-t-n] <sub>by</sub> ' implies 'b, bt [Perform an action on]'  
 and by bt [l-k-#] <sub>b</sub> implies 'by, bt [Perform an action on]'.

On the other hand ki'bel is the -Agentive double converse of na'tan. 'by, bt [k-b-l] <sub>b</sub> does not imply 'by, bt [perform an action on]'. As is seen from Ex. 132 j ki'bel has no passive converse. It is not active, so it has no passive (though some non-active B.P.s do have a passive converse, (cf. p. 227 ff)). The same applies to {a'ma? in Ex. 64 w. That ki'bel which is the double converse of {a'la# (Ex. 132s) has an admissive converse (Ex. 132 t; cf. p. 276 ff).

Notice Ex. 132 k,m. The semantic relation between hik'na and {a'lal in these examples is similar to the relation between ma'xar and ka'na in Ex. 133 a, b.

Ex. 133.

- a. jo'sef ma'xar 'sefer llda'vid  
'Joseph sold a book to David'
- b. Jo'sef ka'na 'sefer mi da'vid  
'Joseph bought a book from David'

In both Ex. 132 k and Ex. 133 a the reader is told that David acquired possession of something that he did not possess before. In Ex. 132 m and Ex. 133 b the reader is told that at a certain moment David ceased to be in possession of something. But the similarity does not go any further than this from Ex. 133 a the reader learns also that Joseph ceased to be in possession of the thing that was acquired by David, and in Ex. 133 b - that he acquired possession of the thing David had had before. These do not apply to Ex. 132 k and m.

In other words 'jo'sef hikna xzu'jot lda'vid'  
 Joseph gave rights to David'

does not imply 'da'vid {a'lal xzu'jot mi jo'sef'  
'David denied right from Joseph'

nor conversely. Unlike ma'xar and ka'na, hik'na and {a'lal cannot be described as double-converses of each other. That is not to deny the overlapping between the meanings of ka'na or ma'xar (and similar pairs) on the one hand, and hik'na- {a'lal on the other hand. They all share a certain semantic relation. How is this semantic relation to be characterized? It will be observed that all these pairs include three ingredients: they are all ingressive, agentive and possessive.

E.g. 'b, <sup>by</sup>bt [m-k/x-r] implies 'b' act upon 'bt' [agentive],

such that 'bt' switches over to [ingressive] being in possession of 'by' [possessive; cf. p. 292 ]. 'by <sup>by</sup>bt, b [k-n-j/o] implies

'by' acted upon 'bt' [agentive], such that 'bt' switched over to [ingressive] not being in possession of 'b' [possessive]'.  
 08

Besides the fact that the latter is the double converse of the former (as is seen from the order of the variables), the difference between ma'xar and ka'na lies in the fact that in the latter the possessive element is negated. In this sense ma'xar and ka'na are contradictory. The same applies to hik'na and {a'lal, with the only difference that the latter are not double converses of each other.

Since ma'xar and ka'na and similar pairs are contradictory, in this sense, it may appear that 'b, <sup>by</sup>bt [m-k/x-r] and

<sup>by</sup>bt, b [k-n-j/o] are not really equivalent to each other. How can they be equivalent - the argument may go - if besides being the double converses of each other they are contradictory?

However, this argument is not valid. One should not forget that each of the roots ma'xar and ka'na includes both the element 'being in possession of' and its negation 'not being in possession of'. 'b, <sub>by</sub> bt [m-k/x-r]' includes both "b<sub>e</sub> is not in possession of 'bt'" and "b<sub>y</sub> is in possession of 'bt'". 'b<sub>y</sub>, <sub>b</sub> bt [k-n-j/q]' includes exactly the same two elements. This does not apply to hik'na and {a'lal. Whereas hik'na can be described as belonging to the B.P.-type 'b, <sub>by</sub> bt [k-n-j/q]', {a'lal cannot be described as belonging to the B.P.-type 'b<sub>y</sub>, <sub>b</sub> bt [{-l-ll}', since the one who denies right, can hardly be described as 'receiver'. More appropriate labelling will be 'dr, <sub>dd</sub> dt [{-l-ll}' (cf. p. 293). 'b, <sub>by</sub> bt [k-n-j/q]' is included in "b<sub>y</sub> is the possessor of 'bt'" but not necessarily in "b is not the possessor of 'bt'". 'dr, <sub>dd</sub> dt [{-l-ll}' is included in "dd is not the possessor of 'dt'" but not in "dr is the possessor of 'dt'".

## 2.8. Type II: Predicators denoting certain types of behaviour or activity.

The only function of the Binyanim in non-ergative formations in type I is to realize one of the terms in the Aktionsart contrast '{<sub>λ</sub><sup>0</sup>}'. Where this contrast is neutralized or irrelevant the Binyan-morph or Mishkal-morph occurring with each root is nothing but a redundant "dummy" element, Type II is distinguished by the fact that the Binyan occurring with each root is a realization of some "deep" feature in a category which is different from '{<sub>λ</sub><sup>0</sup>}'. This type is very

sparsely represented. All the B.P.s are non-ergative.

1. II.A: roots denoting vices.

The B.P.-type underlying formations of this subtype is  $n[R_{Ac}^{\circ}]$ . 'Ac' is an abbreviation for 'Activate'. Most roots denote a vice, an anti-social trait of character etc. If 'o' is selected the meaning of the predicator is identical to the meaning of the root. The B.P. in this case has roughly the meaning: 'n has this vice (is lazy, conceited, etc.)'. If 'Ac' is selected the meaning of the root is modified to convey the idea that the vice denoted by it is activated, realized, that is, the B.P. has roughly the meaning 'n is behaving anti-socially, his behaviour realizes this particular vice (he is being lazy, conceited etc.)'.<sup>+</sup> With one exception 'Ac' is realized by Hithpa'el. The exceptional case is z-h-r 1261 with which 'Ac' is realized by Niph'al and 'o' by ca'cic. 'o' is realized by a Mishkal, with most roots cac'can.

All the roots are  $\begin{matrix} +D \\ +G \\ -C \end{matrix}$

The roots are: ?/o-c-l 7, ?/o-m-k 30, b/v-d-d 136, b-d-l 140, b-l-t 163, b/v-t-l 188, b/v-j-l 200, f/p-n-k 346, g-?/o-j/o 397, k-m-c 516, m-s-r 625, p-r-?/o 738, p-r-c 739, r-{-l 791, {-l-l 949, {-p-x 982, {-x-c 1004, x-c-f 1109, x-k-m 1121, x-n-f 1152, x-{-v 1190, x-z-r 1221, z-h-r 1261. Ex. 134.

a. hi nora baj } a'nit  
'She is terribly shy'

---

+ Notice that in English 'Ac' is realized by the progressive of the verb 'be'.

- b. hi no'ra hitbaj' { a vlo he'?iza lcal'cel elai (A.)  
 'She was being terribly shy and did not dare ring me'

There is, of course, no absolute criterion to decide what is a vice and what is a virtue. For certain people and in certain situations obstinacy or shiness, for instance, are virtues. For other people or in other situations, they are vices.

This subclass, however, includes, in addition to the above, one or two roots which by most standard would be regarded as denoting a virtue, e.g. ?/q-m-k 30.

This subtype is rather productive. A number of four-consonant roots (it will be recalled that such roots were excluded from this thesis) fit into its pattern.

The roots ?/q-b/v-l 5 and t-m-m 1042 do not properly belong with subtype II.A. but they can perhaps be affiliated to it. The root ?/q-b/v-l 5 does not denote a vice, but when Hithpa'el occurs with it it occurs as the realization of the feature 'Ac'. The feature 'q' is realized by Mishkal ca'cec Ex. 135.

- a. hu ʔa'vel  
 'He [is] a mourner
- b. hu mitʔa'bel  
 'He is mourning'

When Hithpa'el occurs with the root t-m-m 1042 it is not a realization of 'Ac' since 'hita'mem' (t-m-m 1042 with Hithpa'el) is paraphrased not as hitna'heg b tmi'mut  
 'was behaving naively'  
 but as hitna'heg b tmi'mut mʔu'sa  
 'was behaving naively pretending'  
 ('Was pretending to be naïve').

2. B.2. Roots denoting a profession, function or permanent occupation.

This subtype is closely related to II.A. The B.P. type is here too  $n[R \begin{Bmatrix} \emptyset \\ \text{Ac} \end{Bmatrix}]$ . The difference between I.A. and I.B. is that in the latter the roots do not denote a vice, and the Binyan realizing 'Ac' is in most cases not Hithpa'el.

The roots are: b/v-l- } 162, f/p-k-d 331, f/p-r-c 355, n-c-# 664, r-?-j/ø 741, r-g-l 766, {-m-r 970, v/j/ø-r-j/ø 1090. Ex. 136.

a. hu mna'ce#  
'He [is] a conductor'

b. hu nice# al tiz'moret Kol isra'el  
'He was conducting the orchestra of the Voice of Israel'

This subtype is not as productive as B.1. Many speakers prefer periphrastic constructions such as ʔa'sak  
brfu'ʔa, ʔa'vad btor rofe? 'He practiced  
medicine, worked as a doctor'

etc. Many names of professions, functions etc. cannot occur at all with a Binyan that realizes 'Ac', e.g. na'gar 'carpenter'; ʃo'ter 'policeman'; xa'jat 'tailor'.

Some roots denoting feelings or moods may be described as II.A. roots (that is, as roots which take  $\begin{Bmatrix} \emptyset \\ \text{Ac} \end{Bmatrix}$ , ) whether or not they require  $\begin{Bmatrix} \emptyset \\ \wedge \end{Bmatrix}$ . This applies mainly to some of the roots which were listed in 2.6.1. The roots in question can occur with a Mishkal (in most cases cac'can) with the meaning 'be a person who frequently has this feeling or mood'. Roots which denote feelings or moods with anti-social consequences (e.g. k/x-ʔ/ø-s 471) may perhaps be classified with II.A.1, as roots which denote vices, though no one of them occurs with Hithpa'el.

The roots are: f/p-~~x~~-d 382, k/x-~~z~~/q-s 471, r-~~x~~-m 709, r-g-~~z~~ 768, r-g-z 769, s-~~z~~/q-r 815, s-m-~~x~~ 862 and x-~~z~~-~~z~~ 1188.

## 2.9. Formation rules introducing basic occurrences of Binyanim and Mishkalim.

In the following chapter I do not intend to give a detailed list of formation rules, but just to outline, with a few examples, my general approach to the composition of such a list, and to raise some points of discussion.

Different sets of rules will be given for ergative B.P.-types and for non-ergative B.P.-types, since non-ergative B.P.s with no corresponding ergative B.P.s usually share the rules with non-ergative B.P.s that do have corresponding ergative B.P.s, and ergative B.P.s with no corresponding non-ergative B.P.s usually share rules with ergative B.P.s with corresponding non-ergative B.P.s. (cf. p. 143).

There are two non-ergative B.P.-types in I and II (all the variables except 'n' are ignored): 'n[I<sup>{Q}</sup>]<sub>o</sub>' and 'n[II<sup>{Q}</sup>]<sub>Ac</sub>]<sub>o</sub>', where I stands for type I and II for type II.

The set of roots in the range of the predicator-variable 'I' is divided into a number of subsets. The Aktionsart category '<sup>{Q}</sup>' is absent from the environments of some of these subsets. 'n[I<sup>{Q}</sup>]<sub>o</sub>' is then just an abbreviation for a number of classes of B.P.-types such as n

$$\begin{bmatrix} \text{I.A.} \cdot \{Q\} \\ \text{I.B.} \cdot \{Q\} \\ \text{I.C.} \cdot \{Q\} \\ \text{I.D.} \\ \vdots \\ \vdots \end{bmatrix}$$

where only I.A., I.B. and I.C. require the Aktionsart category

$\{\emptyset\}$ . I.A.B. and C. includes all -Dynamic roots in 'I', except a number of classes of -Dynamic roots with special semantic or syntactic characteristics. The exceptions are subsumed under subtype I.E., which includes the subclasses I.E.1 (roots of feelings or moods), I.E.2 (content-object and internal object roots), I.E.3 (sound-roots) and I.E.4 (Quasi-copulas).

For all +Dynamic roots  $\{\emptyset\}$  is neutralized. These roots are subsumed under I.D.

This internal division of the B.P.-type  $n[I\{\emptyset\}]$  is necessary for setting up formation rules introducing Binyanim and Mishkalim, since one has to distinguish between those Binyanim and Mishkalim which realize Aktionsart features and the "dummy" ones, which, at most, have semantic tie-up. However, if the formation rules introducing Binyanim and Mishkalim are to have power to explain these semantic tie-ups, a different kind of classification of the roots in I is to be set up, in addition to the above, one that will take account of semantic features such as Durational, Gradational etc. For example, the rule introducing Binyan Pa'al will have to take into account the semantic tie-up of this Binyan in I, namely, the fact that the great majority of roots which take this Binyan are  $\begin{smallmatrix} +\text{Durational} \\ -\text{Gradational} \end{smallmatrix}$  and that very few  $\begin{smallmatrix} +\text{Durational} \\ -\text{Gradational} \end{smallmatrix}$  roots take a different Mishkal or Binyan. The class of  $\begin{smallmatrix} +\text{Durational} \\ -\text{Gradational} \end{smallmatrix}$  roots in I (like other classes of this kind, e.g.  $\begin{smallmatrix} +D & -D \\ +G & -G \\ -C \end{smallmatrix}$  etc.) cuts across a number of subtypes in the set of subtypes I.A., I.B. .... I.E.. (It includes 6 roots in I.A.1, 2 roots in I.A.4, 7 roots in I.A.5, many roots in I.D., most roots in



I.E.3 etc.). That is, a classification which takes into account semantic features will have to be different from the above classification into the subtypes I.A. - I.E. However, the latter classification will have to be presupposed by the new classification, since it is important to distinguish between B.P.s with ' $\{\frac{0}{\lambda}\}$ ' and B.P.s outside this category. This distinction can be incorporated into the new classification by including in each of the subclasses created by it an indication as to whether the roots in it are +Dynamic or -Dynamic, and whether they can or cannot be characterized by one of the features F(eelings or moods), S(ounds), C(ontent or internal objects) or Q(uasi copulas). If a root is not marked as +Dynamic or as F, S, C or Q, this means that it requires  $\{\frac{0}{\lambda}\}$ . Otherwise - it does not require this Aktionsart category.

The subclasses in the new classification will include only regular cases, that is, roots that require a Binyan or Mishkal such that no general rule (rule that covers many cases) introducing Binyanim or Mishkalim is infringed. The exceptions are treated separately.

Here are some examples of subclasses that will be set up by the new classification of I:

<u>+D</u>	+D	<u>+D</u>	S	+Dy	+Dy
+G			+D	+D	-D
-C	-G	-G	-G	-G	-G

where D = Durational, G = Gradational, Dy = Dynamic, S = Sounds (that is, I.E.3).

For simplicity's sake let me restrict the following discussion to the above classes.

Since the purpose of this chapter is not to give factual information but to discuss problems, the facts will

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be presented in a simplified manner and some distinctions will be glossed over.

In accordance with what was said in p. 178, the labels for the subclasses are not to be confused with criteria for membership in them. In other words, if a subclass has a certain label, say +D, this does not necessarily mean that  
-G

all the roots in this subclass have the features +D and -G and that no roots outside this subclass have these features. It just means that among the subclasses of I., <sup>+D</sup>-G had the highest proportion of roots which imply both +D and -G, and that few roots outside <sup>+D</sup>-G have both these features. The  
-G

formal criterion for the membership of a root in a certain subclass (say +D) is that this root obligatorily occurs with  
-G

a certain Binyan (say, Pa'al) or Mishkal or a group of Binyanim or Mishkalim. The formation rules introducing Binyanim or Mishkalim are then nothing but criteria for the membership of roots in a certain specific subclass.

Suppose a formation rule states that the criteria for a root to be a member in a subclass labelled, say +Dy  
-D  
-G

is the occurrence of this root with Niph'al. Now, suppose that among all the subclasses, the subclass occurring with Niph'al has indeed the highest proportion of +Dy roots,  
-D  
-G

but the subclass occurring with Hithpa'el has almost as high a proportion of +Dy roots as the subclass occurring with  
-D  
-G

Niph'al. Clearly, in this case there is no point in setting

up two different subclasses. One would set up a single

subclass +Dy with two subdivisions: +Dy (those taking  
 -D -D  
 -G -G 1

Niph'al) and +Dy (those taking Hithpa'el).  
 -D  
 -G 2

But suppose now that half the roots that take

Hithpa'el are +Dy and the other half are +Dy and that  
 -D +D  
 -G -G

all the other +Dy roots occur with Pa'al. Then there  
 +D  
 -G

are three possibilities: a. All the roots that take Hithpa'el  
 are to be assigned to +Dy . b. All the roots that take  
 -D  
 -G 2

Hithpa'el are to be assigned to +D . c. Half - to  
 -G 2

+Dy and the other half to +D .  
 -D -G 2  
 -G 2

The third possibility takes into consideration the semantic facts. The first two - does not. As things stand there seems to be no compelling reason for preferring any of these three possibilities. The decision whether to choose the third or one of the first two may become better motivated if one takes into account the economy of the whole description. A decision of this kind will be illustrated further below, with reference to the subclasses +D , S ..... +D . (As mentioned  
 -G +D +G  
 -G -C  
 above, all the other subclasses were ignored for simplicity's sake). Cf. p.

If the formation rules introducing Binyanim are to be stated economically, they cannot operate directly on

these subclasses as they are presented above, since such problems as the one just discussed arise.

Notice the following facts: though most

S  
+D  
-G

roots occur with Pa'<sup>s</sup>al, 8 occur with Pi'<sup>s</sup>el, 3 with Hiph'<sup>s</sup>il and 2 with Hithpa'<sup>s</sup>el. (cf. p. 217). Though most

+Dy  
+D  
-G

roots occur with Pa'<sup>s</sup>al, 10 occur with Hithpa'<sup>s</sup>el, 8 with Pi'<sup>s</sup>el etc. (cf. pp. 192-209). Though most

+Dy roots  
-D  
-G

occur with Niph'<sup>s</sup>al, some occur with Pa'<sup>s</sup>al, some with Hiph'<sup>s</sup>il and some with Hithpa'<sup>s</sup>el (cf. pp. 192-209). Though 'h' is realized as Hithpa'<sup>s</sup>el with most

+D  
+G  
-C

is realized by Hiph'<sup>s</sup>il (cf. pp. 156-158).

Are the roots that occur with Pi'<sup>s</sup>el in

S to  
+D  
-G

be described as members of a sub-class

S or of a  
+D  
-G 2

different subclass? It will be observed that besides these roots the only roots which occur with Pi'<sup>s</sup>el in our subclasses are the 8 +Dy roots in I.D.4. It may be concluded, then,

+D  
-G

that even if we wanted to assign the roots that take Pi'<sup>s</sup>el in

S to a subclass other than S we could not do so,  
+D +D  
-G -G 2

since the only subclass that can be considered for this purpose is of negligible size. The same argument applies, of course,

to the roots that take Pi'el in +Dy . The latter should  
 +D  
 -G

be assigned to +Dy .  
 +D  
 -G 2

The +D roots that take Hiph'il as a realization  
 +G  
 -C

of 'l' can be described only as +D , since no other  
 +G +l  
 -C 2

roots that take { } occur with Hiph'il. As concerns the

+Dy roots, that take Hithpa'el, one may assign them either  
 +D  
 -G

to +Dy or to +D (since all +D roots take  
 +D +l  
 -G 3 -C 1 -C 1

Hithpa'el).

The +Dy roots occurring with Pa'al may be  
 -D  
 -G

assigned either to +Dy or to +Dy . The +Dy roots  
 -D +D -D  
 -G 2 -G -G

occurring with Hiph'il and those occurring with Hithpa'el

can be assigned either to +Dy and +Dy , respectively,  
 -D -D  
 -G 3 -G 4

or to +D and +D respectively. cf. below.  
 +G +l +G +l  
 -C 2 -C 1

We may then revise the list of subclasses of I as

follows:

+D S S +Dy +Dy +Dy  
 -G , +D and +D +D and +D  
 -G 1 -G 2, -G 1 -G 2 -G 3,  
 +D +Dy +Dy +Dy +Dy  
 -G , -D and either -D or -D and -D  
 -G 1 -G 1 -G 2 -G 1 -G 3  
 and either +Dy or +D +D  
 -D -G 4 -C +l -C +l  
 -G 1 -C 2

Before deciding between the alternative cases in this list we must discuss another preliminary arrangement which must precede the formation rules: reduction rules. First it will be observed that features such as '+Dy' and 'S', whose sole function is to distinguish roots that do not require  $\{\phi\}$  (cf. p. 250) are redundant for the purposes of formation rules introducing Binyanim or Mishkalim. So we can formulate the following reduction rule: for any subclass-label X, if X includes  $\begin{matrix} +D \\ -G \end{matrix}$  or  $\begin{matrix} -D \\ -G \end{matrix}$  or  $\begin{matrix} +D \\ +G \\ -C \end{matrix}$ , then, when

formation rules are concerned, X is to be regarded as identical to  $\begin{matrix} +D \\ -G \end{matrix}$  or  $\begin{matrix} -D \\ -G \end{matrix}$  or  $\begin{matrix} +D \\ +G \\ -C \end{matrix}$ , respectively. E.g. for the

purpose of formation rules  $\begin{matrix} S \\ +D \\ -G \end{matrix} = \begin{matrix} +Dy \\ +D \\ -G \end{matrix} = \begin{matrix} +D \\ -G \end{matrix}$ . The

second reduction rule is based on the fact that a -Dynamic root with  $\{\phi\}$  becomes  $\begin{matrix} +Dynamic \\ +Ingressive \end{matrix}$  (and, by implication,  $\begin{matrix} -Durational \\ -Gradational \end{matrix}$ ) when ' $\uparrow$ ' is added to it, whereas no modification occurs in it when ' $\phi$ ' is selected with it (cf. p. 138).

According to the latter reduction rule, then:

$$\text{I.} \quad \begin{matrix} +D \\ -G \end{matrix} + \phi = \begin{matrix} +D \\ -G \end{matrix}$$

$$\begin{matrix} +D \\ -G \end{matrix} + \uparrow = \begin{matrix} -D \\ -G \end{matrix}$$

$$\text{III.} \quad \begin{matrix} +D \\ -G \end{matrix} + \phi = \begin{matrix} +D \\ -G \end{matrix}$$

$$\begin{matrix} +D \\ -G \end{matrix} + \uparrow = \begin{matrix} -D \\ -G \end{matrix}$$

$$\begin{array}{c} +D \\ +G \\ -C \end{array} + Q = \begin{array}{c} +D \\ +G \\ -C \end{array}$$

III.

$$\begin{array}{c} +D \\ +G \\ -C \end{array} + \nearrow = \begin{array}{c} -D \\ -G \end{array}$$

The latter reduction rule applies before the former.

After both reduction rules are applied the list of subclasses in p. is transformed into the following:

$$\begin{array}{c} +D \\ -G \end{array} 1, \quad \begin{array}{c} +D \\ -G \end{array} 2, \quad \begin{array}{c} +D \\ -G \end{array} 3, \quad \begin{array}{c} -D \\ -G \end{array}, \quad \begin{array}{c} +D \\ -G \end{array} 1, \text{ either } \begin{array}{c} -D \\ -G \end{array} 2$$

or  $\begin{array}{c} +D \\ -G \end{array} 1, \quad \begin{array}{c} -D \\ -G \end{array} 3, \quad \begin{array}{c} -D \\ -G \end{array} 4, \quad \begin{array}{c} +D \\ +G \\ -C \end{array}$  (all three divisions

of the second rule were applied)

Now the formation rules introducing Binyanim and Mishkalim are given

1.  $\begin{array}{c} +D \\ -G \end{array} 1 \longrightarrow \begin{array}{c} +D \\ -G \end{array} 1 \quad \frown \quad \text{Pa}'\text{'al}$
2.  $\begin{array}{c} +D \\ -G \end{array} 2 \longrightarrow \begin{array}{c} +D \\ -G \end{array} 2 \quad \frown \quad \text{Pi}'\text{'el}$
3.  $\begin{array}{c} +D \\ -G \end{array} 3 \longrightarrow \begin{array}{c} +D \\ -G \end{array} 3 \quad \frown \quad \text{Hithpa}'\text{'el}$
4.  $\begin{array}{c} -D \\ -G \end{array} 1 \longrightarrow \begin{array}{c} -D \\ -G \end{array} 1 \quad \frown \quad \text{Niph}'\text{'al}$
5.  $\begin{array}{c} -D \\ -G \end{array} 2 \longrightarrow \begin{array}{c} -D \\ -G \end{array} 2 \quad \frown \quad \text{Pa}'\text{'al}$
6.  $\begin{array}{c} -D \\ -G \end{array} 3 \longrightarrow \begin{array}{c} -D \\ -G \end{array} 3 \quad \frown \quad \text{Hithpa}'\text{'el}$
7.  $\begin{array}{c} -D \\ -G \end{array} 4 \longrightarrow \begin{array}{c} -D \\ -G \end{array} 4 \quad \frown \quad \text{Hiph}'\text{'il}$
8.  $\begin{array}{c} +D \\ -G \end{array} \longrightarrow \begin{array}{c} +D \\ -G \end{array} \quad \frown \quad \text{Ca}'\text{'cuc etc.}$
9.  $\begin{array}{c} +D \\ +G \\ -C \end{array} \longrightarrow \begin{array}{c} +D \\ +G \\ -C \end{array} \quad \frown \quad \text{Mcui}'\text{'cac etc.}$
10.  $\begin{array}{c} +D \\ +G \\ -C \end{array} 2 \longrightarrow \begin{array}{c} +D \\ +G \\ -C \end{array} 2 \quad \frown \quad \text{Muc}'\text{'cac etc.}$

Rules 1 and 4 account not only for cases in which

Pa'al and Niph'al are redundant, but also for cases in which they realize 'o' and 'ʔ', respectively. This is due to the reduction rules. Had these reduction rules not been applied, there would be four formation rules instead of 1 and 4, namely:

- 1'.  $\text{o} \longrightarrow \text{Pa}'\text{al} \begin{array}{l} \text{+D} \\ \text{-G} \end{array}$
- 2'.  $\text{ʔ} \longrightarrow \text{Niph}'\text{al} \begin{array}{l} \text{+D} \\ \text{-G} \end{array} \quad \text{or} \quad \begin{array}{l} \text{+D} \\ \text{-G} \end{array}$
- 3'.  $\begin{array}{l} \text{+Dy} \\ \text{+D} \\ \text{-G} \end{array} \text{ 1} \longrightarrow \begin{array}{l} \text{+Dy} \\ \text{+D} \\ \text{-G} \end{array} \text{ 1} \quad \text{Pa}'\text{al}$
- 4'.  $\begin{array}{l} \text{+Dy} \\ \text{-D} \\ \text{-G} \end{array} \text{ 1} \longrightarrow \begin{array}{l} \text{+Dy} \\ \text{-D} \\ \text{-G} \end{array} \text{ 1} \quad \text{Niph}'\text{al}$

and the inherent connection between rules 1' and 3' on the one hand, and 2' and 4' on the other hand (cf. p. 192 f.) would not be captured.

Notice also that the reduction rules eliminate the distinction between  $\begin{array}{l} \text{+Dy} \\ \text{-D} \\ \text{-G} \end{array}$  roots that take Hithpa'al and Niph'il and

Hiph'il and  $\begin{array}{l} \text{+D} \\ \text{+G} \\ \text{-C} \end{array}$  roots with which 'ʔ' is realized as

Hithpa'al and as Hiph'il. Thus, rules 6 and 7 account for both cases. As in the case of rules 1 and 4 above, had the reduction rules not operated, there would be four rules instead of 6 and 7:

- 1".  $\text{ʔ} \longrightarrow \left\{ \begin{array}{l} \text{Hithpa}'\text{el} \\ \text{Hiph}'\text{il} \end{array} \begin{array}{l} \text{+D} \\ \text{+G} \\ \text{-C} \end{array} \begin{array}{l} 1 \\ 2 \end{array} \right\}$
- 2".  $\left\{ \begin{array}{l} \text{Hithpa}'\text{el} \\ \text{Hiph}'\text{il} \end{array} \begin{array}{l} \text{+D} \\ \text{+G} \\ \text{-C} \end{array} \begin{array}{l} 1 \\ 2 \end{array} \right\}$
- 3".  $\begin{array}{l} \text{+Dy} \\ \text{-D} \\ \text{-G} \end{array} \text{ 3} \longrightarrow \begin{array}{l} \text{+Dy} \\ \text{-D} \\ \text{-G} \end{array} \text{ 3} \quad \text{Hithpa}'\text{el}$



4".  $\begin{matrix} +Dy \\ -D \\ -G \end{matrix} 4 \longrightarrow \begin{matrix} +Dy \\ -D \\ -G \end{matrix} 4 \quad \text{Hithpa}'el$

and the inherent connection between 1" and 3" and 2" and 4" would not be captured

In accordance with what was mentioned in p. it should be considered whether the number of subclasses (and, accordingly, formation rules) could be reduced further. Notice first that three different options present themselves

when  $\begin{matrix} +D \\ -G \end{matrix} 3$  and  $\begin{matrix} -D \\ -G \end{matrix} 3$  are concerned. a.  $\begin{matrix} +D \\ -G \end{matrix} 3$  (rule 3) could be abolished and replaced by  $\begin{matrix} -D \\ -G \end{matrix} 3$  (rule 6.)

b.  $\begin{matrix} -D \\ -G \end{matrix} 3$  could be abolished and replaced by  $\begin{matrix} +D \\ -G \end{matrix} 3$

c. Everything should be left as it is.

Since  $\begin{matrix} -D \\ -G \end{matrix} 3$  is part of the output of the reduction

rule no. III above, the option b. should be rejected, otherwise it would obscure the fact that there is an inherent connection

between  $\begin{matrix} +D \\ +G \\ -C \end{matrix} +\wedge$  and  $\begin{matrix} -D \\ -G \end{matrix}$  roots. The option a. should be

be rejected too, otherwise rule 6 would become much too powerful. It would assign the semantic tie-up  $\begin{matrix} -D \\ -G \end{matrix}$  to

Hithpa'el in many cases in which this Binyan can be described neither as the realization of ' $\wedge$ ' with  $\begin{matrix} +D \\ +G \\ -C \end{matrix}$  roots, nor as

a redundant form occurring with  $\begin{matrix} -D \\ -G \end{matrix}$  roots in whose environment

$\begin{Bmatrix} \circ \\ \wedge \end{Bmatrix}$  neutralizes.

Another choice which presents itself here is the following:  $\begin{matrix} -D \\ -G \end{matrix} 2$  (rule 5) could be abolished and replaced

by  $\begin{smallmatrix} +D \\ -G \end{smallmatrix} 1$  or the other way round. The second possibility should be rejected, since it would make rule 1 much too powerful. It would assign the semantic tie-up  $\begin{smallmatrix} -D \\ -G \end{smallmatrix}$  to Pa'ʿal

in many cases in which this Binyan is a redundant form with +Dynamic and, by implication, +Durational roots, with which  $\begin{smallmatrix} +D \\ -G \end{smallmatrix}$  neutralizes. The first possibility can be accepted, since the occurrence of Pa'ʿal as the realization of 'a' is not incompatible with  $\begin{smallmatrix} -D \\ -G \end{smallmatrix}$  roots. There are in I.A. -Dynamic roots with 'a' that are  $\begin{smallmatrix} -D \\ -G \end{smallmatrix}$ .

$\begin{smallmatrix} -D \\ -G \end{smallmatrix} 4$  can be completely abolished, since it includes a very small number of roots. These can be treated individually, as exceptions.

The above set of formation rules will then be modified and take the following form:

1.  $\begin{smallmatrix} +D \\ -G \end{smallmatrix} 1 \longrightarrow \begin{smallmatrix} +D \\ -G \end{smallmatrix} 1 \quad \frown \quad \text{Pa'ʿal}$
2.  $\begin{smallmatrix} +D \\ -G \end{smallmatrix} 2 \longrightarrow \begin{smallmatrix} +D \\ -G \end{smallmatrix} 2 \quad \frown \quad \text{Pi'ʿel}$
3.  $\begin{smallmatrix} +D \\ -G \end{smallmatrix} 3 \longrightarrow \begin{smallmatrix} +D \\ -G \end{smallmatrix} 3 \quad \frown \quad \text{Hithpa'ʿel}$
4.  $\begin{smallmatrix} -D \\ -G \end{smallmatrix} 1 \longrightarrow \begin{smallmatrix} -D \\ -G \end{smallmatrix} 1 \quad \frown \quad \text{Niph'ʿal}$
5.  $\begin{smallmatrix} -D \\ -G \end{smallmatrix} 2 \longrightarrow \begin{smallmatrix} -D \\ -G \end{smallmatrix} 2 \quad \frown \quad \text{Hithpa'ʿel}$
6.  $\begin{smallmatrix} -D \\ -G \end{smallmatrix} 3 \longrightarrow \begin{smallmatrix} -D \\ -G \end{smallmatrix} 3 \quad \frown \quad \text{Hiph'ʿil}$
7.  $\begin{smallmatrix} +D \\ +G \\ -C \end{smallmatrix} 1 \longrightarrow \begin{smallmatrix} +D \\ +G \\ -C \end{smallmatrix} 1 \quad \frown \quad \text{Mcū'cac etc.}$
8.  $\begin{smallmatrix} +D \\ +G \\ -C \end{smallmatrix} 2 \longrightarrow \begin{smallmatrix} +D \\ +G \\ -C \end{smallmatrix} 2 \quad \frown \quad \text{Muc'cac etc.}$

$$9. \quad \frac{+D}{-G} \longrightarrow \frac{+D}{-G} \quad \text{Ca'cuc etc.}$$

The main functions of the reduction rules and formation rules presented above are to explain the semantic tie-up of Binyanim and Mishkalim and to show the connection between those classes of roots which require  $\left\{ \begin{smallmatrix} \emptyset \\ \lambda \end{smallmatrix} \right\}$  and those classes of roots with which this contrast neutralizes or to which it is irrelevant.

The rules show, for instance that Pa'ʿal, Pi'ʿel and Hithpa'ʿel have the semantic tie up  $\frac{+D}{-G}$ , and that Hithpa'ʿel, but not Pa'ʿal and Pi'ʿel, has also the semantic tie-up  $\frac{-D}{-G}$ .

They also show that the Binyanim do not distinguish, as it were, between semantic features which a predicator that includes 'ʔ' implies, and semantic features that are implied by a predicator which does not include 'ʔ'. Niph'ʿal, for instance, has the same semantic tie up, namely  $\frac{-D}{-G}$ , with both kinds of predicators.

## 2.10. Derived occurrences of Binyanim

For the notion 'derived occurrences of Binyanim' cf. 2.1.5.

### 1. Reflexive

Some occurrences of certain Binyanim are reflexive. The B.P.s underlying these occurrences are ordinary ergative B.P.s. In other words, no recategorization of roots and their B.P.s is required in order to explain the reflexive use of certain Binyanim. However, only few roots can take reflexive occurrences of Binyanim.

Reflexivity can be explicated as a special case of instantiation of an ergative B.P. If the B.P. is 'a,g[R]<sub>0</sub>'

and it is instantiated as ' $V_{aao}, V_{gao} [R]_o$ ', that is, if  $a = g$ , or, in other words, the instantiated value of 'a' equals the instantiated value of 'g', then the instantiation is said to be reflexive.

The class of reflexive instantiations is included in the class of all instantiations of every ergative B.P. of which the predicator is not irreflexive. The B.P. of, say, the irreflexive predicator '[give birth to]' has no reflexive instantiations. This does not necessarily imply that the reflexive instantiations of every B.P. are realized with an occurrence of a reflexive Binyan. In fact only few roots can take a reflexive occurrence of a Binyan. Among these roots there is a high proportion of roots denoting making one's toilet (washing, dressing etc.), though not all personal-toilet roots can take a reflexive occurrence of a Binyan. What characterizes these roots is the fact that they denote activities which the agent normally performs with himself as the object. The Binyan with which these roots are realized when they are used reflexively is in most cases Hithpa'el. When they are not used reflexively the Binyan is in most cases Pi'el, and in some cases Pa'al.

The question arises what is meant by 'identity of the instantiated values of 'a' and 'g'! Does it concern identity of phonological representations, of meaning or of reference? Notice for instance the following examples:

1. William Shakespear shaved the author of Hamlet
2. The man who lost his wife shaved the man who lost his wife
3. The widower shaved the man who lost his wife.

In 1 the reference of the value of 'a' is identical to the reference of the value of 'g', but neither the meanings nor the phonological representations are identical. In cases such as this the terms are not considered identical for the purpose of the rule introducing reflexive Binyanim.

In 3 the meanings are identical but not the phonological representations nor necessarily the references. Again, here the terms are not considered identical for the purpose of this rule.

In 2 the phonological representations are identical and so are the meanings, but not necessarily the references. Here the rule can operate, but only on the assumption that the references are identical. For the rule to be applied, then, the necessary conditions are identity of phonological representations and of meanings, and identity of references must be assumed.

The roots are: ?/o-p-r 36, ?/o-t-l-f 116, b/v-r-} 177, b/v-s-m 179, c-j-d 250, f/p-d-r 322, f-l-# 343, f/p-}-t 380a, f/p-t-r 383, f/p-j-# 391, g-l-# 420, g-r-d 433, k-f-f 503, k-l-f 508, k-l-# 513, k/x-n-n/o 521, k/x-s-j/o 551, l-b-} 580, l-k-k 588, m-k-m 612, m-r-# 624, m-s-r 626, n-g-v 678, n-k-j/o 691, r-#-c 806, s-b-n 820, s-k-n 846, s-l-k 851, s-r-k 879, x-t-l 1201, j-f/p-j/o 1236.

Ex. 135.

- a. dal'ja      ?ip'ra et 'dina  
'Daliah put make up on Dinah's face'
- b. b o'to jom      mi}um      ma      hi      hit?ap'ra      (A.)  
'On that day for some reason she put on make up'
- c.      hi      ?ip'ra et ac'ma  
'She put on make up (made herself up)'
- d.      hi      ?ip'ra      o'ta  
'She put make up on her'

As is seen from Ex. 135 c. there is an alternative way of expressing the reflexive. This consists of a formation which is identical in everything, including the Binyan selected, to an ordinary ergative formation, except that the value of 'g', which must be a personal pronoun, is suffixed to the form *acm-* 'self' (compare Ex. 135 d.) With roots of the above class this way is optional. With all other ergative roots this is the only way to express the reflexive (the situation with reference to related formations, such as nominalizations of ergative B.P.s etc. is ignored here).

With the ergative-only roots in the above class *Hithpa'*el serves unambiguously as the reflexive marker, that is, it marks the instantiation underlying the formation as reflexive. But with non-ergative-and-ergative roots in the above class ambiguity is possible, since in some cases *Hithpa'*el is both the reflexive marker and the realization of 'ʔ'. E.g. 'hu hitko'fef' (where the underlying B.P. is 'He became bent' 'n[k-f-f]{ʔ}l' and *Hithpa'*el realizes 'ʔ') or as 'He bent himself' (where the underlying B.P. is 'a,n[k-f-f] = 'a,g[k-f-f]' and *Hithpa'*el is the reflexive marker).

#### Quasi reflexive

A number of roots share some semantic, though not syntactic features with the roots listed above. These are: ?/e-b-d 1, b-c-r 135, b-t-?/e 186, c-l-v 229, x-p-r 1159, x-j-v 1210a, z-z-z 1296, z-h-j/e 1264. All take *Hithpa'*el.

These roots define non-ergative B.P.s only, but except ?/e-b-d 1 and c-1-v 229 each of them has a corresponding root in an ergative B.P. with a similar meaning and the same phonological representation.

Ex. 136.

a. ha iv'rit {e'li, 'jaxad im ha maʔ'mac {e'li lhitra'kez  
'My Hebrew , together with my effort to concentrate

v lhitba'te? ʔo'sim 'roʔem meʔu'jam (A.)  
and express myself create a certain impression'

b. a'ta 'paʔam bi'teta et ha raʔ'jon {e .....(A.)  
'You once expressed the idea that .....'

lhitba'te? in Ex. 136a can be paraphrased lva'te? et ac'mi  
'to express myself'

Though the root b/v-t-?/e in Ex. 136a is identical in phonological representation and similar in meaning to b/v-t-?/e in Ex. 136b, the former can be viewed neither as the non-ergative form corresponding to the latter, nor as the realization of the reflexive instantiation of the latter. Furthermore, the ergative B.P. 'a,g[b-v-t-?/e] has no reflexive instantiations, since the values of 'g' are inanimate, that is, the predicator b/v-t-?/e is irreflexive. The fact that the subject (that is, the value of 'n') in Ex. 136a is animate indicates that the B.P. underlying this example is not the non-ergative B.P. corresponding to the ergative B.P. underlying Ex. 136b, since the subject (the value of 'n') of a non-ergative B.P. is identical to the object (the value of 'g') of an ergative B.P., but the object of the ergative b/v-t-?/e is inanimate.

The reasons why the roots listed above are described as quasi-reflexive are that forms consisting of such a root and Hithpa'el can be paraphrased by a circumlocution, or,

in some cases, an idiomatic expression including the form *acm-* 'self', and that in most cases these forms denote activities which the subject performs upon himself. Some circumlocutions paraphrasing these forms include the ergative root which is identical in phonological representation and similar in meaning to the quasi-reflexive roots. Some others do not include such ergative roots.

Examples:

<u>Quasi-reflexive form</u>	<u>paraphrases</u>
hit?a'bed (with no corresponding ergative)	?i'bed et ac'mo l'da?at (idiomatic) 'Destroyed himself intentionally'
	ha'rag et ac'mo. 'Killed himself'
hitxa'jev 'He committed himself'	la'kax al ac'mo hitxaj'yut 'Took upon himself a commitment'

## 2. Reciprocal (symmetric relations)

Ex. 137.

- a. ra?nan hitna'ek im 'gila  
'Raanan kissed with 'Gila'
- b. 'gila hitna'ka im ra?nan  
'Gila kissed with Raanan'
- c. ra?nan v'gila hitna'ku  
'Raanan and Gila kissed'
- d. raa'nan ni'ek et 'gila  
Ra?nan kissed Gila
- e. 'gila ni'ka et ra?nan  
'Gila kissed Raanan'
- f. ra?nan hitxa'ten im 'gila  
'Raanan married with Gila'
- g. ra?nan v'gila hitxat'nu  
'Raanan and Gila married'
- h. har'be zu'got bimxu'van lo mitxat'nim  
'Many couples deliberately do not marry'



kdei lka'bel et hata' lum ha'ze m ha mem{a'la (A.)  
in order to get this payment from the Government'

- i. jo'sef xi'ten et 'gila / (et raʔ'nan / et raʔ'nan  
'Joseph married off Gila / ( Raanan / Raanan

v'gila)  
and Gila)'

- j. raʔ'nan xi'ten et 'gila  
'Raa'nan married off Gila'

- k. 'gila xit'na et raʔ'nan  
'Gila married off Raanan'

- l. jo'sef hista'jef im raʔ'nan  
'Joseph fenced with Raa'nan'

- m. \*jo'sef si'jef et raʔ'nan  
'Joseph fenced Raa'nan'

All the forms containing the roots n-{-k 707, s-j-f 906 and x-t-n 1203 in Ex. 137 express mutuality, reciprocity. However, there are some differences between the roots n-{-k 707, s-j-f 906 and x-t-n 1203. These differences can be described as follows: The root n-{-k defines the ergative B.P. 'a,g[n-{-k}]<sub>o</sub>, from which, by U.I., the instantiation raʔ'nan<sub>lao</sub>, 'gila<sub>lgo</sub> [n-{-k}]<sub>o</sub> (underlying Ex. 137d) and 'gila<sub>lao</sub>, raʔ'nan<sub>lgo</sub> [n-{-k}]<sub>o</sub> (underlying Ex. 137e) can be derived. Ex. 137 a. and b. - which are paraphrases of each other - are derived from the conjunction of the above two instantiations:

'raʔ'nan<sub>lao</sub>, 'gila<sub>lgo</sub> [n-{-k}]<sub>o</sub> and 'gila<sub>lao</sub>, raʔ'nan<sub>lgo</sub> [n-{-k}]<sub>o</sub> (simultaneously)'. Any rule introducing formations such as Ex. 137 a. and b. will be applied only if the value of 'a' in each of the conjuncts is identical in phonological representation, in meaning and in reference with the value of 'g' in the other conjunct.

The root x-t-n 1203 defines the non-ergative B.P.

$n, (n') [x-t-n]$ , which expresses a symmetric relation (that is  $n, (n') [x-t-n] \equiv n', (n) [x-t-n]$ , underlying Ex. 137 f, g and h.) and an ergative B.P.  $a, n \underset{(n')}{[x-t-n]}$  underlying Ex. 137 i, j and k. Since  $n, (n') [x-t-n] \equiv n', (n) [x-t-n]$ , the ergative B.P. can be rendered either as  $a, n \underset{(n')}{[x-t-n]}$  or as  $a, n' \underset{(n)}{[x-t-n]}$ . With the possibility of deletion indicated by the brackets, the variety of B.P.s presented above explains naturally the interconnections between all the formations with  $x-t-n$  in Ex. 137.

The root  $s-j-f$  906 also defines a non-ergative B.P. expressing a symmetric relation, namely  $n, n' [s-j-f]$ , but no ergative B.P.

The difference between  $n-\{-k$  707 on the one hand and  $x-t-n$  1203 and  $s-j-f$  906 on the other hand is that the latter two express symmetric relations whereas the former expresses a non-symmetric (though not asymmetric) relation. However, there are many points of similarity between the former and the latter. Once a conjunction of instantiations such as  $'ra^2nan_{1a0} 'gila_{1g0} [n-\{-k]$  and  $'gila_{1a0}, ra^2'nan_{1g0} [n-\{-k]$  (simultaneously)' is formed, the root  $n-\{-k$  in the context of this conjunction does express mutuality or reciprocity. Formationally roots such as  $n-\{-k$  in conjunctions of the kind stated above behave in the same manner as inherently reciprocal roots. In both cases the Binyan occurring with the root is Hithpa'el, the construction in the singular is  $'a R im b'$  ('im' is a preposition) and in the plural  $'a v b R'$  ('V' is the conjunction 'and') etc. In order to account for this similarity one may introduce

rules which, in certain conditions, would convert a non-symmetric predicator into a symmetric one, and in this way make it fit to undergo the formation rules whose use is restricted to inherently symmetric predicators.

Stated informally, such rules will convey the information that for some ergative B.P.s, if two instantiations of the same B.P. hold simultaneously, such that the instantiated value of the first coordinate of each of them is identical to the instantiated value of the second coordinate of the other, then the root becomes, at least for the purpose of a certain set of formation rules, a reciprocal root in a non-ergative instantiation of the type  $U_{1no} V_{1n'o} [R]$ .

One step in this conversion procedure will be coalescence of elements which occur twice in the conjunction of two instantiations of the same ergative B.P.; the predicator will occur only one time and instead of four arguments (two identical pairs) there will be only two.

As mentioned above, these rules will not apply to all ergative B.P.s. Some ergative B.P.s will never have two instantiations which hold simultaneously, such that the value of 'g' in the one is identical to the value of 'a' in the other. This applies, for instance, to ergative B.P.s in which the values of 'g' are inanimate. However, not all ergative B.P.s which do allow the possibility of reciprocal instantiations can go through the same formation rules as inherently reciprocal roots. In fact, this ability is restricted to a small number of roots. The majority of these are roots denoting activities which involve interaction

between two parties, notably all kinds of erotic activities.<sup>+</sup>  
 On the other hand not all ergative roots which refer to typically mutual activities behave formationally like inherently reciprocal roots.

For reciprocal instantiations-conjunction of roots outside this small class of typically mutual roots there is a special formation, different from the formation realizing inherently reciprocal roots.

Ex. 138.

- a. jo'sef v da'vid ʔod'du e'xad et ha'e'ni  
 'Joseph and David encouraged one another'
- b. 'dalja v 'rina ʔod'du a'xad et ha'ni'ja  
 'Dal'ja and Rina encouraged one another'
- c. lo rak hem. beindo'nezia {oʔ'tim e'xad  
 'Not only they. In Indonesia they slaughter one  
 et ha'e'ni be'kongo {oʔ'tim e'xad et ha'e'ni (A.)  
 another, in Congo they slaughter one another'

(In this example the parties are groups rather than individuals).<sup>‡</sup>

With typically-mutual ergative roots the construction exemplified in Ex. 138 is optional. With other ergative roots it is the only reciprocal construction available (compare the situation with reference to the alternative formations for reflexive roots. p. 265 ).

The Binyan occurring with inherently reciprocal roots as well as with reciprocal instantiation conjunctions is, except in a small number of cases, Hithpa'el. With

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+ Compare the fact that among the reflexive instantiations which take Hithpa'el many denote acts which one performs with himself as the object (cf. p. 263 ).

‡ Related constructions such as nominalizations etc. are ignored here.

inherently reciprocal roots the occurrence of the Binyan cannot be characterized as "derived" in the sense of p. since no operation has to be performed on their B.P.s before the formation rules introducing Binyanim can apply. These roots define ordinary ergative and non-ergative B.P.s, or non-ergative B.P.s only, and their sole peculiarity is that they express a symmetric relation. And indeed most of these roots were actually classified under one or another of the subclasses in type I.

Unlike the occurrences of Hithpa<sup>l</sup>el with reflexive instantiations (cf. p. 265), its occurrences with reciprocal instantiations-conjunctions cannot be characterized as markers of reciprocity, since they are in fact redundant. The reciprocity of, say Ex. 137 a. and b. is expressed by the sequential order of the forms and by the preposition 'im'. The reciprocity of Ex. 137 c. is expressed by the sequential order of the forms and by the conjunction 'v'. Ex. 137 c. is distinguished from a coordinative formation such as

raʔ'nan  
'Raanan

v 'gila ni 'ku et jo'sef  
and Gila kissed Joseph'

by the absence of a direct object (a value of 'g') from the former. The Binyan does not have any distinctive function in these three examples.

The inherently reciprocal roots which define both a non-ergative and an ergative B.P. are: ?/o-g-d 14, ʔ/o-r-s 41, ?/o-x-d 49, ?/o-x-j/o 52, c-l-v 230, f/p-g- 325 (takes Niph<sup>l</sup>al), f/p- -r 380, f/p-j-s 390, r-k-v 776, s-b-x 822, -v-j/o 999, x-l-f 1130, x-t-n 1203 and z-m-n 1281.

Ex 139.

- a. le a'xar 'kama zman nizdāḥanti im {xe'na  
'After some time I met by chance with a neighbour  
{e 'gara be'to ha 'bait, v hi sip'ra li {e...(A.)  
who lives in the same house, and she told me that....'
- b. ha {ad'xan hix'lit lza'men o'tam bmsi'ba  
The matchmaker decided to arrange a meeting between them  
in a party'

The inherently reciprocal roots which define a non-ergative B.P. only are: ?/ə-b-k 4, ?/ə-l-s 24, ?/ə-r-v 43, ?/ə-s-k 46, d-b-r 264 (Takes Niph'al), d-b-r 266 (Takes Pi'el), g-r-} 439, k-}-r 555, l-ḥ-m 599, (Takes Niph'al), r-?/ə-j/ə 743, r-v 804 (Takes Pa'al), s-j-f 906, {-v-j/ə 1000, v-2/ə-d 1062, v-k-ḥ 1075, x-r-j/ə 1172, j-d-d 1235, j-ḥ-d 1250, z-h-j/ə 1265, z-v-g 1297.

The root g-r-} 439 behaves formationally like the other inherently reciprocal roots, except for the fact that it takes the preposition 'm-' "from" instead of 'im' "with". Semantically, this root is sometimes used as an ordinary inherently reciprocal root and sometimes as a non reciprocal root with 'ab' as its second coordinate, (Notice that 'ab' is usually realized by the preposition 'm-').

Ex. 140

- a. jo'sef v 'dalja hitgar' {u  
'Joseph and Daliah divorced (each other)'
- b. jo'sef hitgarē { mi dalja 'neged rco'na  
'Joseph divorced from Daliah against her will'

In Ex. 140 a. g-r-} is used as a reciprocal root.

In Ex. 140 b. - as a non-reciprocal root.

Ex. 141.

ha 'bait mur'kav ku'lo m joc'pei ger'manja {elo  
'The house consists wholly of immigrants from Germany who

mdab'rim iv'rit klal, vhem mistad'rim. (A.)  
don't speak Hebrew at all, and they get along'

Ex. 142.

lo ha'jiti muxa'na la'tet la'bat {eli lhis'tovev im  
 'I would not be willing to let my daughter go around with  
 hajla'dim {ela (A.)  
 her children

The ergative roots which can have a reciprocal instantiations-conjunction and behave formationally like inherently reciprocal roots are: g-p-f 431, k/x-t-v 562, l-t-f 595, l-x- $\int$  600, x-b-k 1105, x-l-f 1129a, x- $\int$ - $\int$  1189, j- $\int$ /q-c 1224 and a number of coarse words denoting sexual activities, such as z-j-n 'fuck' including four consonantal roots such as m-z-m-z 'neck' etc.

The roots k/x-t-v 562, l-x- $\int$  600, and j- $\int$ /q-c 1224 define the B.P.-type 'a,ob[R]' (the additional variable 'ä' <sub>(f)</sub> with k/x-t-v 562 is ignored here). For the purpose of reciprocal instantiation conjunctions and the formations they underlie 'ob' behaves in the same way as 'g' (cf. p. 230). In reciprocal formations including these roots 'f' usually remains uninstantiated, and is deleted (cf. p. 52 ). The reason why this is so is clear. 'f' stands for the content of the action denoted by the root. For instance, in the case of l-x- $\int$  600 each value of 'f' stands for what is being whispered. Now, if the whispering is mutual, the value of 'f' when the whisperer is, say, David is bound to be different from the value of 'f' when the whisperer is Joseph. Therefore it is impossible to express a specific value of 'f' in a single reciprocal formation.

As mentioned in p. 233 , ergative B.P.s with 'ob' as second coordinate have no passive converse. Now, the

B.P.s of k/x-t-v 562 and l-x- 600, but not of j-2/o-c 1224, do have a passive converse. This would be accounted for if these two roots were assigned the B.P.-type 'b, <sup>by</sup>bt[R]'

(compare 2/o-m-r 90 etc.). However, the latter B.P.-type would leave the reciprocal instantiation-conjunctions with these roots unexplained, since what corresponds to 'qb' in 'b, <sup>by</sup>bt[R]' is not the second coordinate, but the third coordinate, 'by'. Therefore each of these roots was assigned to both B.P.-types, namely b, <sup>by</sup>bt[R] and a, <sup>(f)</sup>qb[R].

Ex. 143.

- a. jo'sef la'xa l'david {e lo ika'nes la'xeder'  
'Joseph whispered to David that he should not enter the room'
- b. hahe?a'ra nilx'a l'da'vid al jdei jo'sef  
'The remark was whispered to David by Joseph'

### 2.10.3 Converses

#### 1. Passive imperfect and passive perfect

Most ergative B.P.s have a passive converse. The exceptions are those ergative B.P.s in which the second coordinate is 'qb' (indirect object"; cf. p. 190 ). This applies both to ergative B.P.s with a corresponding non-ergative B.P. and to ergative B.P.s with no corresponding non-ergative B.P.

There are two aspects (to be distinguished from Aktionsart, cf. p. 30ff) associated with each passive converse of a B.P.: perfect and imperfect (cf. p. 118ff). The perfect is expressed in each Binyan and in each tense by a special participle Mishkal. (cf. p. 16 ).

Ergative roots which take Pa'al take Niph'al in the passive imperfect and ca'cuc in the passive perfect.



Those which take Pu'el take Pu'al in the passive imperfect and mcu'cac in the passive perfect. Those that take Hiph'il take Hoph'al in the passive imperfect and muccac in the passive perfect. The perfect Mishka'lim are inflected according to tense, person, gender and number, with the help of the root h-j-j/e as auxiliary (cf. p. 219).

With the perfect aspect the value of 'a' (the second coordinate of the passive converse) is never instantiated, and this variable is deleted in formations (cf. p. 52). Semantically the deleted variable must be interpreted as a quantified argument, but the nature of the quantification (universal, existential etc.) is determined by the specific context in each case.

Ex. 144.

- a. hut'kafnu al jdei jxidat 'tankim (A.)  
'We were attacked by a unit of tanks'
- b. ha'jinn mnuta'kim (A.)  
'We were disconnected'

## 2. Admissive<sup>+</sup>

Ex. 145.

- a. jo'sef hitka'bel e'cel hamma'hel b {a'?a }a'lo}  
'Joseph was received by the manager at three o'clock  
axar ha coho'raim  
in the afternoon'
- b. ha mna'hel ki'bel et jo'sef b {a'?a }a'lo}  
'The manager received Joseph at three o'clock  
axar ha coho'raim  
in the afternoon'

The B.P. underlying Ex. 145. a. is the non-ergative B.P. 'n,b[k-b-l]'. The variable 'b' is realized with the

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<sup>+</sup> The term is taken from Rosén, 1957.

preposition e'cel 'with, within the domain of'. The B.P.-type 'n,b[R]' will be called "admissive". The B.P. underlying Ex. 145 b. is the converse of the admissive B.P., namely 'b,n[k-b-l]. The Binyan in Ex. 145 b. is Pi'el and this formation has the outward characteristics of an ergative formation. This, however, is nothing but a superficial resemblance. One of the things indicating this is the fact that there are no formations underlying the passive converse of b,h[k-b-l].

All the roots which define the B.P.-type n,b[R] except four have formations for its converse. The presence of variables in addition to 'n' and 'b' is irrelevant to this observation.

Some admissive roots define an ordinary ergative B.P. as well.

Ex. 146.

- a. jo'sef hicta'lem e'cel ca'lam  
'Joseph had his picture taken by a photographer'
- b. ca'lam ci'lem et jo'sef  
'A photographer took Joseph's picture'
- c. Jo'sef culam al jdei ca'lam  
'Joseph was photographed by a photographer'

Ex. 146 b. is ambiguous. It represents both the admissive converse b,n[c-l-m] and the ergative B.P. a,g[c-l-m].

Most admissive roots take Hithpa'el. In the formations realizing the admissive converse they take Pi'el. With roots which define both an ergative B.P. and an admissive B.P. the Binyan occurring with admissive converse formations is identical to the Binyan occurring with ergative formations. As will be observed below, this is a feature of all converses

of non-ergative B.P.s.

The Binyan in admissive formations is redundant, since the admissivity of the formation is expressed by the preposition e'cel.

The admissive roots which do not define an ergative B.P. as well are: ?/e-m-l 31, ?/e-r-~~z~~ 44, ?/e-z-r 126 (takes Niph' al and the preposition b- instead of e'cel), g-d-l (takes Pa' al) 408, k-b-l 482, l-n (takes Pa' al) 593, s-j-~~z~~/e (takes the preposition b-) 904, ~~z~~-k-l (takes Niph' al) 939, j-n-k (takes Pa' al) 1239.

The four admissive roots with no converse are: m-x-j/e 639, n-s-j/e 703, s-k-r 848, ~~z~~-l-m 951.

The admissive roots which do define an ergative B.P. as well are: ?/e-m-n 32, ?/e-n-j/e 35, ?/e-p-r 36, b/v-d-r 142, b/v-r-r 175, c-l-m 227, c-j-n 253, f/p-d- 344, f/p-m-k 346, f/p-r- 365, g-l-~~z~~ 420, k/x-b-d 477, k/x-n-~~z~~/e 520, s-m-l 857, s-m-n 858, s-p-r 873, s-r-k 879, x-n-x 1158.

Ex. 147.

- a. hu hista'per e'cel ha kafrisa'?'i  
'He had his haircut with the cypriot'
- b. ha kafrisa'?'i si'per o'to  
'The cypriot gave him a haircut'
- c. hu su'par al jdei hakafrisa'?'i  
'He was given a haircut by the cypriot'

### 3. Causative<sup>+</sup>

Ex. 148.

- a. jo'sef hitla'hev m ha n'?um  
'Joseph got excited by the speech'
- b. han'?um hil'hiv et jo'sef  
'The speech excited Joseph'

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+ Not to be confused with causative formations such as 'He made him walk' etc.

- c. da'vid hil'hiv et jo'sef im han'?um  
'David excited Joseph with the speech'
- d. jo'sef hul'hav al jdei da'vid im han'?um  
'Joseph was excited by David with the speech'

The B.P. underlying Ex. 148 a. is 'n(c)[l-h-v]'.  
(c)

The B.P.-type 'n(c)[R]' will be called "causative". The converse of the latter causative B.P., namely 'c,n[l-h-v]' is the underlying B.P. of Ex. 148 b. The underlying B.P. of Ex. 148 c. is the ergative B.P. a,n [l-h-v] and of Ex. 148 d. -- the latter's passive converse.

Among the causative roots there is a particularly high proportion of roots denoting feelings, moods or body-states.

In most formations realizing causative B.P.s the value of 'c' is preceded by the preposition m-. No particular single Binyan is favoured by causative B.P.s. The Binyan occurring with the root in formation realizing the converse of causative B.P.s is invariably identical to the Binyan occurring with the same root in ergative formations.

The causative roots are: ?/e-l-f 21, ?/e-l-j/a 25, ?/e-r/e-r 39, ?/e-r-r 40, ?/e-j-f 53, ?/e-c-v 65, ?/e-l-v 82, b/v-h-l 146, ?/e-x-l 121, b/v-r-?/e 170, b/v-r-x 178, b/v-j- { 199, c-?/e-r 206, (takes either the preposition m- or the preposition al-), c-x-k 257, d-?/e-g 259, d-h-m 278, d-k-?/e 281, d-k-r 283 (takes the preposition b-) f/p-c-?/e 317, f/p-g-?/e 324, f/p-l-?/e 335 (takes either m- or al-, like 206), f/p-r-?/e 351, f/p-t-j/e 389, f/p-x-d 392, g-?/e-l 398, g-r-m 436, g-r-j/e 441 h-m-m 464, k/x-?/e-r 470, k-m-m 517, k-r-r/e 540, k-s-m 549, l-b-j/e 582, l-h-v 584, l-m-d 592, m-t 634, m-x-c 637, n-t-x 718, n-x-m 728, r-d-m

762, r-g-~~z~~/o 764, r-g-~~z~~ 768, r-g-z 769 (take either m- or al-), r-m-m 781, r-p-~~z~~/o 784, r-s-n 789, r-~~z~~-m 793, r-t-~~z~~/o 796, r-t-v 800, r-t-~~z~~ 803, s-~~z~~/o-r 815, s-b/v-~~z~~/o 816, s-m-~~z~~ 862 (takes either m- or al-), s-p-k 870, ~~z~~-k-r 942, ~~z~~-k-t 944, ~~z~~-z-f 1011, v-x 1099, x-l-~~z~~ 1141, x-m-m/o 1149, x-m-m 1150, x-n-k 1154, x-s-n 1178, j-~~z~~/o-l 1228, x-~~z~~-l 1185, j-b/v-~~z~~ 1229.

Ex. 149.

ani mdu'ka? gam mi ma {e mitra'xe} a~~z~~'rei hamilxa'ma.  
 'I am depressed also by what is going on after the war.  
 ze mda'ke? o'ti (A.)  
 It depresses me'

#### 4. Other converses

Ex. 150

- a. 'maim nit'zu m ha ci'nor  
 'Water sprinkled from the hose'
- b. haci'nor hi'tiz 'maim  
 'The hose sprinkled water'
- c. jo'sef hi'tiz 'maim m haci'nor  
 'Joseph sprinkled water from the hose'
- d. 'maim hut'zu m ha ci'nor al jdei jo'sef  
 'Water was sprinkled from the hose by Joseph'

The B.P. underlying Ex. 150 a. is 'n(ēl)[n/o-t-z]'.  
 The one underlying Ex. 150 b. is the latter's converse 'ēl,n [n/o-t-z]'. The B.P. underlying Ex. 150. c. is the ergative B.P. 'a,n [n/o-t-z], and Ex. 150 d. - the latter's passive (ēl)

converse. The Binyan occurring with the root in the non-ergative converse formation is identical to the Binyan in the ergative formation. The variable 'ēl' is realized with the preposition m-.

We see, then, that n/o-t-z behaves in exactly the

same way as certain admissive roots and all the causative roots. The only thing that distinguishes n/e-t-z from the rest is the fact that the second coordinate of its B.P. is 'el'.

The characteristics of n/e-t-z (namely, the presence of formations realizing the converse of the non-ergative B.P. 'n,el[n/e-t-z]' as well as ergative formations, such that the same Binyan is used with the converse and with the ergative) are shared by a number of roots, notably a significant number of roots with 'el', 'in' or 'p' as second coordinate (though not by all roots of these types).

The roots with 'el' are: c-m-# 237, c-n-# 238, d-l-f 285, f/p-l-t 342, k-r-n 538, n/e-{-r 711, n/e-t-f 714, n/e-t-z 721, n/e-z-l 733, v/j/e-l-d 1078.

The roots d-l-f 285, f/p-l-t 342, k-r-n 538 and v/j/e-l-d 1078 do not define an ergative B.P. With the converse of d-l-f 285 and k-r-n 538 the Binyan is Pa'al. With the converses of all the other roots in the above list - Hiph'il. The preposition preceding the value of 'el' in formations including these roots is m-.

Some roots can be described as defective 'n,el[R]' - roots, defining the converse 'el,n[R]' but not the "original" 'n,el[R]'.

Ex. 151.

- a. 'ʔo{er ka'ran mi'menu  
'Happiness radiated from him'
- b. hu ka'ran 'o{er  
'He radiated happiness'
- c. \*ha tmu'na kar'na m ha ma'sax  
'The picture reflected from the screen'

- d. hama'sax hik'rin et hatmu'na  
'The screen reflected the picture'
- e. 'maim naz'lu m ha'berez  
'Water dripped from the tap'
- f. ha'berez hi'zil 'maim  
'The tap dripped water'
- g. \*noz'lim par'u m ha'guf  
'Liquids emitted from the body'
- h. haguf hif'ri noz'lim  
'The body emitted liquids'

After the analogy of Ex. 151 a. and b. one might expect Ex. 151 c. to be a formation in C.I.H., but it is not. The same applies to Ex. 151 d. following the pattern of Ex. 151 e. and f.

The roots with 'in' are: 2/o-~~x~~-z 123, b/v-l-2/o 157, c-b/v-t 211, k/x-l-l 510, k-l-t 512, n/o-s-2/o 699, s-~~x~~-f 895, {-k-f 938, {-m-r 968, t-f-s 1028, v-l-2/o 1076, z-r-m 1298. Ex. 152.

- a. gam a'ta ka'lul bar'i'ma hazot  
'You are also included in this list'
- b. har'ima hazot ko'lelet gam ot'xa  
'This list includes also you'

The roots with 'p' are: c-f 218, c-p-j/o 239, f/p-c-j/o 321, k/x-s-j/o 551, t-k-f 1031, x-s-m 1177. Ex. 153.

- a. hakni'sa labin'jan haj'ta \*su'ma be'arga'zim  
'The entrance to the building was blocked with boxes'
- b. arga'zim xas'mu et hakni'sa labin'jan  
'Boxes blocked the entrance to the building'

The roots with other variable labels as a second coordinate are:<sup>+</sup> 2/o-s-k 108, 2/o-z-r 126, b/v-t-2/o 187, c-l-~~x~~ 231, c-j-n 251, g-l-m 417, g-r-r 437, k-l-t 511, k-{-r 553, s-m-n 858, s-k-m 842, s-m-n 857, s-p-k 871, s-~~x~~-v 902, t-m-x 1043, j-~~x~~-d 1249.

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+ For the specific variable-label with each of these roots the reader is referred to the index.

Ex. 154.

- a.       bo       ha'xag       hicta'jen       becfi'ra  
'The coming of the festival was marked with a hoot'
- b.       cfi'ra cij'na et   bo       ha'xag  
'A hoot marked the coming of the festival'



## INDEX OF ROOTS WITH THEIR B.P.-TYPES

### Case labels

Here is the list of case labels (cf.1.6.7) used in this index.

n - nominative

This case is roughly equivalent to Fillmore's Objective case, described by the latter (1968:25) as 'the semantically most neutral case'. This description suggests that the Objective (and, for that matter my Nominative) is actually a non-case, or in other words, an unlabelled variable. As a rule, the only argument of a one-place predicator will be labelled 'n'. A higher degree of differentiation is not required, since such argument always has the same outwards manifestations (as the grammatical subject in clauses, as a genitive in nominalizations etc). The same applies to the first coordinate of a relation in a non-ergative B.P., e.g. 'n, il[k/x-n-s]' 'enter' (for the interpretation of 'il' cf. below). However, in cases such as the latter the label of the second coordinate imposes some semantic interpretation on 'n'. Since 'il' denotes "the thing into which something moves", 'n' in this context must denote 'the thing which moves into something'. However, this latter semantic interpretation has no grammatical significance

a - agentive (direct)

ă - agentive (indirect)

For the distinction between 'a' and 'ă' cf. pp. 'a' (or 'ă') is usually the label of the first coordinate in ergative B.P.s.

g - goal

This is usually the label of the second coordinate in ergative B.P.s.

ob - objective; cf. below.

c - causative<sup>+</sup>

The direct cause of, or the moving force behind, what is denoted by the predicator. Typically, this case accompanies predicators denoting feelings or moods, physical reactions and so forth. E.g.

hu ca'xak m ha b di 'x a. hu niv'hal m  
'He laughed at the joke'. 'He got scared of the  
ha 'ra ʔ a'  
the noise'

i - instrumental

p - pletive

The case of the materials or other things involved in an event or used in an action: E.g. 'He stuffed his pipe with tobacco'. 'His chest was covered with decorations'. 'He cleared his pipe of tobacco'. 'He stripped his chest of all decorations'. Notice that the choice of the preposition depends on the verb selected. If the verb has a "positive" meaning the preposition is 'with'. If the verb has a "negative" meaning the preposition is "of".

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+ To be distinguished from the same term when applied to causative constructions such as 'He made me laugh', cf. p. 278.

## d - delocutive

The case of the subject talked about, thought about etc.: 'He talked to me a b o u t h i s p l a y'.

## r - respective

The case of the field or subject with respect to which the action is carried out, the event occurs etc.;  
'He specialized i n t r o p i c a l d i s e a s e s'.

## f - factitive

This is not a case properly so-called, since in most cases it is formally indistinguishable from 'g'. Semantically it denotes a thing that comes into being by what is denoted by the predicator. The set of roots which take 'f' include roots of speaking, thinking, wishing etc. With these roots 'f' is instantiated by a B.P., which may sometimes be realized as a clause. Roots of the latter kind exhibit certain characteristics that are relevant to the present study (cf. 2.6.2). This fact is the reason why 'f' has been set up as a distinct case-label. Only roots with these characteristics will occur in the index with 'f'. If from the semantic point of view a root requires a factitive object, but formally it behaves like an ordinary ergative root, it will occur in the index with 'g' rather than 'f'.

## b - benefactive

The case of the g i v e r : ' J o h n gave the book to Jane'

## dr - deprivative

The case of the taker (or receiver, cf. 2.7.8):

'J a n e took the book from John'

ge - genitive

The case of the possessor: ' J o h n has the book';  
'J o h n ' s book'.

The following are the "local" cases (cf. Lyons  
1968:298ff):

in - inessive

The case of being i n or i n s i d e

el - elative

The case of movement f r o m i n s i d e

il - illative

The case of movement i n t o

su - supressive

The case of being on, over or above

ab - ablative

The case of movement f r o m o u t s i d e

al - allative

The case of movement t o w a r d s

#### B.P. - types representation

The index assigns each root-lexeme, together with its proper Aktionsart category (if it takes one) to its B.P.-type, provides an English gloss for each root and cites the numbers of those sections in the thesis where the root-lexeme in

question is mentioned or discussed. Some roots do not fit into any of the classes set up in the description. These are to be regarded as exceptions. They are identified in the index by the absence of section-numbers.

B.P.-types are represented by a Roman numeral, with or without a lower case subscript. E.g.

<u>Ordinal number</u>	<u>root</u>	<u>B.P.-type</u>	<u>Gloss</u>	<u>Section</u>
504.	[k-h-l <sup>{o}</sup> ] <sub>f</sub> ]	I(ä)	'be assembled'	2.2.6
702.	[n-s-j/o]	III	'try'	2.6.2
etc.				

The Roman numerals and subscripts representing B.P.-types should be interpreted according to the following key, explanations and rules.

#### Key and explanations

I. n	V.n(c)	IX.n(b)	XIII.n(ēl)
II. qb	VI.n,n'	X.n(r)	XIV.n(il)
III.n(f)	VII.n,n'...n <sup>n</sup>	XI.n(ge)	XV.n(su)
IV.qb(f)	VIII.n(p)	XII.n(in)	XVI.n(ab)
			XVII.n(al)

This key includes only the most common B.P.-types. Uncommon B.P.-types, that is B.P.-types that only few roots share, are introduced directly, as part of the relevant entry, e.g. the entry for the root b/v-h-r 149, which defines the uncommon B.P.-type  $\{\check{a}\}_{n,ge[R]}^{(c)}$  will be  $\{\check{a}\}_{n,ge[b/v-h-r]}^{(c)}$ .

Since the above B.P.-type, being an uncommon one, is not included in the above key.

Some uncommon B.P.-types include variables which cannot be significantly assigned any case-label, since they are semantically or grammatically idiosyncratic. These will occur in the entry as unlabelled variables, represented by

the letters 'x', 'y' and 'z', which just mark "places" and have no semantic rôle. E.g. 'n,x[z-n] 'nourish': hu

'He

ni'zon al 'lexem

nourished on bread' there is no point in replacing 'x' by any case-label, since one rarely finds in C.I.H. a variable whose rôle is similar to that of 'lexem' in the above example, and whose surface manifestation includes an occurrence of the preposition al.

'n' and 'qb' are labels for the same intensional feature of the root-lexeme; in other words, they represent the same "deep" case. However, the presence of 'n' "triggers off" certain rules which the presence of 'ob' does not, and conversely. For instance, in B.P.-types where the first coordinate is 'a' and the second coordinate is 'n' (= 'g'; cf. below; e.g. 'a,n [x-l-v] 'milk' = 'a,g[x-l-v]'), 'n' (= 'g') is the so-called "direct object", and the passive converse (e.g. 'g,a[x-l-v]') has surface realizations. But if the second coordinate is 'qb' (e.g. 'a,qb [r-b-c] 'hit') 'qb' is the so-called "indirect object"; the passive converse has no surface realizations and a rule introducing the preposition l- is required.

The B.P.-type 'n,n'[R]' represents a symmetric relation: The two coordinates ('n' and 'n') stand for the same intensional feature; the stroke in 'n' symbolizes the fact that in each instantiation of 'n,n'[R]' the value of 'n' is not necessarily identical with the value of 'n', despite the fact that 'n' and 'n' are co-intensive. E.g. 'n,n'[r-v] 'quarrel, have a row with'. In the sentence 'jo'sef rav im da'vid, realizing the instantiation 'Joseph had a row with David'

jo'sef<sub>1no</sub> da'vid<sub>1no</sub> [r-v]<sub>o</sub> = jo'sef<sub>1no</sub> da'vid<sub>1no</sub> [r-v]<sub>o</sub>

Joseph and David are not identical, but they define the same rôle.

The B.P.-type ' $n, n' \dots n^n$  [R]' stands for a symmetric relation with an indefinite number of cointensive coordinates. E.g.  $n, n' \dots n^n$  [ʔ/o-~~ʔ~~-d<sup>{0}</sup><sub>ʔ</sub>] 'be united' (cf. pp. 267-270 ).

All the B.P.-types in the above key are non-ergative. Each non-ergative B.P. can be turned into an ergative one by prefixing to it one of the "cases" 'a', 'ǎ', 'b' or 'dr' and in this way making the "case" in question the first coordinate of a relation. This prefixation is just the outward manifestation of the process of expanding and modifying the root's meaning by adding to it the meaning feature [+ Agentive] (cf. pp. 57-59 ). It will be observed that every relation of which the first coordinate is one of the case labels 'a', 'ǎ', 'b' or 'dr' is included in the relation 'x, y [perform an action on]'. In other words, such a relation has the intensional feature [+ Agentive].

With a root defining both an ergative and a non-ergative B.P.-types, the agentive case-label (namely 'a', 'ǎ', 'b' or 'dr') is placed between braces, e.g. '{a<sub>n</sub> (il) [k/x-n-s]} 'enter'. With a root defining an ergative B.P.-type only, the agentive case-label occurs with no parenthesis. E.g. 'a, g[x-l-v] 'milk'. Both-non-ergative-and -ergative and ergative-only B.P.-types are represented by symbols including one of the Roman numerals in the above key and a subscript consisting of one of the case-labels 'a', 'ǎ', 'b' or 'dr'. If the B.P.-type is both-non-ergative-and-ergative the case-label is placed in round brackets. If the B.P.-type is ergative-only, the case-label is not enclosed within any

kind of paranthesis. E.g. 'Ia' represents the B.P.-type 'a,n[R]' (= 'a,g[R]'; cf. below). 'XIb' represents the B.P.-type 'b,n[R]' (= 'b,bt[R]'; cf. below). 'V (a)' represents the B.P.-type 'a,n[R]' (= 'a,g[R]'; cf. below) etc.

The prefixation of the ergative case-labels results sometimes in certain other variables automatically changing their rôle, or meaning. E.g. ha xa'lon 'the window' in the non-ergative sentence ha xa'lon ni'bar does not function 'The window broke'

as the "goal" of an action, but in the ergative sentence jo'sef {a'var et ha xa'lon it does. These automatic 'Joseph broke the window'

changes of role are described by the following rules:

1. When any of the variables 'a', 'ä', 'b' or 'dr' is prefixed to a non-ergative B.P.-type, 'n' and 'ob' change their roles and become 'g'. However, in practice 'ob' is never substituted by 'g', since ergative B.P.s with 'g' do not "trigger off" the same rules as ergative B.P.s with 'ob' (cf. above).
2. If 'b' is prefixed to a non-ergative B.P.-type, 'n' and 'ob' change their roles and become 'bt' ("benefit"). If 'dr' is prefixed to a non-ergative B.P.-type, 'n' and 'ob' change their role and become 'dp' ("deprivation"). The second coordinate in an ergative B.P. with 'b' as the first coordinate has then two roles at the same time. In other words, it defines simultaneously two "deep" cases: "goal" and "benefit". In other words, a B.P. 'b,y[R]' is included both in 'a,g [perform an action on]' and in 'b,bt [grant]'. Similarly, the second coordinate in an ergative B.P. with 'dr' as the first coordinate defines two roles: "goal" and "deprivation".



The need to substitute 'n' (or, for that matter, 'ob') by 'bt' or 'dp' does not arise in practice, since the presence of the latter is implied by the explicit presence of 'b' or 'dr' as the first coordinate, and since the same formation rules, with some marginal exceptions, apply to 'a,g[R]' as to 'b,bt[R]' or 'dr,dp[R]'.

3. When 'b' is prefixed to the non-ergative B.P. 'n(ge)[R]', 'ge' changes its role and becomes 'by' ("beneficiary"). When 'dr' is prefixed to 'n(ge)[R]', 'ge' becomes 'dd' ("deprived").
4. When 'a' is prefixed to 'n(c)[R]', 'c' is substituted by 'i'.

It should be noted, that the classification of the C.I.H. roots into B.P.-types presented here possesses no higher degree of delicacy and accuracy than that which is required by the present thesis. It is in principle possible to achieve a much higher degree of delicacy and accuracy. This, however, cannot be accomplished before a highly detailed and careful study of C.I.H. syntax and semantics is carried out, a task which lies outside the scope of the present thesis.

### Alphabetic order

The roots are arranged in the index according to the following alphabetic order: ?, ʔ, b, c, č, d, f, g, ğ, h, k, l, m, n, p, r, s, ʃ, t, v, x, ʒ, j, z, ž.

Whenever any of the consonants alternates with another consonant within the same root, the consonant which comes first in the alphabetic order will occupy the leftmost position in the root transcription, e.g. k/x-t-v, {-k/x-v. Only the leftmost consonant in each such case will be taken into account in the ordering of the roots in the index.

?

1.	[?/ə-b-d]	I.	'Commit suicide'	2.10.1
2.	[?/ə-b-d]	Ia.	'tan, cultivate, adapt, arrange (music), work over'	2.7.5
3.	[?/ə-b-k <sup>{ə}</sup> ]	I(a)	'be powdered, dusty'	2.2.5
4.	[?/ə-b-k]	VI.	'wrestle'	2.10.2
5.	n,x[?/ə-b/v-l <sup>{ə}</sup> <sub>Ac</sub> ]		'be a mourner'	2.8.1
6.	[?/ə-b-n <sup>{ə}</sup> ]	V(ă)	'be fossilized, petrified'	2.2.5 2.10.3
7.	[?/ə-c-l <sup>{ə}</sup> <sub>Ac</sub> ]	III.	'be lazy'	2.8.1
8.	[?/ə-c-v <sup>{ə}</sup> ]	I(a)	'be moulded'	2.2.5
9.	[?/ə-d]	III.	'testify'	2.6.2
10.	[?/ə-d-m <sup>{ə}</sup> ]	I.	'blush'	2.4
11.	[?/ə-d-j/ə <sup>{ə}</sup> ]			2.2.5
or	[?/ə-j-d <sup>{ə}</sup> ]	V(ă)	'be evaporated'	
12.	[?/ə-f-f]	XII.	'fly to and fro'	2.5.5
13.	[?/ə-f/p-s <sup>{ə}</sup> ]	I(a).	'be worthless, null'	2.2.5
14.	[?/ə-g-d <sup>{ə}</sup> ]	VII(ă)	'club together, form a union'	2.2.5; 2.10.2
15.	[?/ə-g-l <sup>{ə}</sup> ]	I(a)	'be round, rounded, circular'	2.2.5
16.	[?/ə-h-v]	III.	'love, like'	2.6.1; 2.6.2
17.	n,x[?/ə-h-v <sup>{ə}</sup> ]		'be in love with'	2.4
18.	[?/ə-k-l]	XIdr	'confiscate'	2.7.5
19.	[?/ə-k-m <sup>{ə}</sup> ]	I(a)	'be crooked, twisted'	2.2.5
20.	[?/ə-k- <sup>{ə}</sup> <sub>Ac</sub> ]	III.	'be stubborn, obstinate'	2.8.1
21.	[?/ə-l-f <sup>{ə}</sup> ]	V(ă)	'be in a dead faint'	2.2.5; 2.10.3
22.	[?/ə-l-l]	IIa	'treat someone cruelly'	2.7.7
23.	[?/ə-l-m]	IIa	'ignore, disregard'	2.7.7
24.	[?/ə-l-s]	VI.	'flirt, with, neck with'	2.10.2

25.	[?/ə-l-j/ə <sup>{o}</sup> ]	V(ă)	'be exalted, uplifted'	2.2.5; 2.10.3
26.	[?/ə-m-c <sup>{o}</sup> ]	I, I(a)	'be brave'	
27.	[?/ə-m-c]	III.	'make efforts'	2.6.2
28.	[?/ə-m-c]	Ia	'adopt (a child, a habit etc.)'	2.7.5
29.	[?/ə-m-d]	Ia	'set up print in pages'	2.7.5
30.	n,x-[?/ə-m-k <sup>{o}</sup> <sub>Ac</sub> ]		'be a deep thinker'	2.8.1
31.	[?/ə-m-l]	IX.	'do physical exercises'	2.5.5; 2.10.3
32.	n(r) <sub>(b)</sub> [?/ə-m-n]	IIIa	'train, get training'	2.7.5; 2.10.3
33.	[?/ə-n-n]	I.	'masturbate'	
34.	[?/ə-n-n]	III.	'complain'	2.6.2
35.	[?/ə-n-j/ə]	IIIa and IX	'torture, go through tortures'	2.7.5 2.10.3
36.	[?/ə-p-r]	Ia and IX	'make up (face)'	2.7.5; 2.10.1; 2.10.3
37.	[?/ə-p-s]	Ia	'zero (instrument)'	2.7.5
38.	[?/ə-r <sup>{o}</sup> ]	V(ă)	'illuminate, give light'	2.3.1
39.	[?/ə-r-r/ə <sup>{o}</sup> ]	V(ă)	'be awake'	2.2.6; 2.10.3
40.	[?/ə-r-r]	V(ă)	'awaken, start'	2.5.2; 2.10.3
41.	[?/ə-r-s <sup>{o}</sup> ]	VI(ă)	'be engaged to'	2.10.2
42.	[?/ə-r-v <sup>{o}</sup> ]	XII(ă)	'be implicated, involved in'	2.2.5
43.	n,n' <sub>(f)</sub> [?/ə-r-v]		'bet'	2.6.2; 2.10.2
44.	[?/ə-r-#]	IX.	'spend time in someone's house as a guest'	2.10.3
45.	[?/ə-r-j/ə <sup>{o}</sup> ]	XII(ă)	'be integrated (in a group of people)'	2.2.5
46.	[?/ə-s-k]	VI.	'quarrel with, carry on with (a girl)'	2.10.2
47.	[?/ə-t-r]	Ia	'locate'	2.7.5

48.	[?/ə-t-t]	IVa	'signal'	2.7.6
49.	[?/ə-ʌ-d <sup>{o}</sup> ]	VII(ă)	'be united'	2.2.5; 2.10.2
50.	[?/ə-ʌ-l]	IVa	'wish (congratulate)'	2.7.5
51.	[?/ə-ʌ-r]	XIV.	'be late'	
52.	[?/ə-ʌ-j/ə <sup>{o}</sup> ]	VI(a)	'be stitched together'	2.2.5; 2.10.2
53.	[?/ə-j-f <sup>{o}</sup> ]	V(ă)	'be tired'	2.2.5; 2.10.3
54.	[?/ə-j-m]	IVa	'threaten'	2.7.6
55.	[?/ə-j-n]	IIa	'read casually, go into a matter'	2.7.6
56.	[?/ə-j-]	III.	'man (an aircraft etc.)'	2.7.5
57.	[?/ə-j-t]	Ia	'spell (a word etc.)'	2.7.5
58.	[?/ə-z]	III.	'dare'	2.6.2
59.	[?/ə-z-n <sup>{o}</sup> ]	I(a)	'be balanced'	2.2.5

## 2

60.	[2/ə-b/v-d]	XI.	'get lost'	2.5.4
61.	[2/ə-c-m]	I	'become powerful'	2.5.5
62.	[2/ə-c-m <sup>{o}</sup> ]	I(a)	'shut (of eyes)'	2.2.3
63.	[2/ə-c-r <sup>{o}</sup> ]	I(a)	'stop, halt'	2.5.3
64.	[2/ə-c-r]	Ia	'detain'	2.7.1
65.	[2/ə-c-v <sup>{o}</sup> ]	V(ă)	'be sad'	2.2.6; 2.10.3
66.	[2/ə-d-m <sup>{o}</sup> ]	V(ă)	'be red'	2.2.4
67.	[2/ə-d-r]	Va	'hoe'	2.7.1
68.	[2/ə-d-r]	XIII.	'be missing'	2.6.4
69.	[2/ə-f]	XII(a)	'fly'	2.5.1
70.	[2/ə-f-r <sup>{o}</sup> ]	V(ă)	'be gray'	2.2.4
71.	[2/ə-f-j/ə <sup>{o}</sup> ]	I(a)	'be baked'	2.2.3
72.	[2/ə-g-f]	Ia	'outflank'	2.7.5
73.	[2/ə-g-r <sup>{o}</sup> ]	XII(a)	'store up, accumulate'	2.2.3

74.	[ʔ/o-h-d]	III.	'like, be a fan of'	2.6.2
75.	[ʔ/o-k-r <sup>{o}</sup> ]	XIII(a)	'be rooted up, pulled out'	2.2.3
76.	[ʔ/o-k-v]	IIa	'follow someone'	2.7.1
77.	[ʔ/o-k-v]	Ia	'follow, come after something'	2.7.1
78.	[ʔ/o-l-c]	III(ä)	'must, have to, be compelled to'	2.6.2
79.	[ʔ/o-l-l]	IVa	'accuse falsely, bring false charges against'	2.7.3
80.	[ʔ/o-l-m]	Ia	'conceal (facts)'	2.7.3
81.	[ʔ/o-l-m]	XIII.	'disappear, vanish'	2.5.4
82.	[ʔ/o-l-v]	V(ä)	'get offended, insulted'	2.5.1; 2.10.3
83.	[ʔ/o-l-j/o]	XVII	'go up, ascend, board (a bus), immigrate to Israel'	2.5.1
84.	[ʔ/o-l-j/o]		'be superior to, surpass'	
85.	[ʔ/o-m-d]	IIIa	'assess (estimate value)'	2.7.1
86.	[ʔ/o-m-d <sup>{o}</sup> ]	I(a)	'be standing'	2.2.2; 2.3.1
87.	[ʔ/o-m-k <sup>{o}</sup> ]	I(a)	'be deep'	2.2.6
88.	[ʔ/o-m-n]	IIa	'be confident of'	2.7.4
89.	[ʔ/o-m-n]	IV	'believe'	2.6.2
90.	[ʔ/o-m-r]	III and XIb	'tell'	2.6.2; 2.7.1; 2.7.8
91.	[ʔ/o-m-s]	XIVa and IIIa	'load, overload'	2.7.3
92.	[ʔ/o-n-d]	VIII(a)	'wear (jewellery, medals etc.)'	2.6.2
93.	[ʔ/o-n-k]	I and III	'groan'	2.6.3
94.	[ʔ/o-n-s]	Ia	'rape'	2.7.1
95.	[ʔ/o-n-]	Ia	'punish'	2.7.3
96.	[ʔ/o-n-ʃ]	I and III	'sigh'	2.6.3

97.	[ʔ/o-n-j/o]	IIIa	'answer, reply'	2.7.1
98.	[ʔ/o-r-f <sup>{o}</sup> ]	V(a)	'behead, decapitate'	2.2.3
99.	[ʔ/o-r-g <sup>{o}</sup> ]	I(a)	'be weaved'	2.2.3
100.	[ʔ/o-r-k]	XIII	'desert (army)'	2.5.4
101.	[ʔ/o-r-m]	XII(a)	'pile (fig.)'	2.5.1
102.	[ʔ/o-r-m]	IIa	'outwit'	2.7.4
103.	[ʔ/o-r-v]	IIa	'lie in wait for'	2.7.2
104.	[ʔ/o-r-x <sup>{o}</sup> ]		'last (in time), take (an hour, a day etc.)'	2.2.6; 2.6.4
105.	n(x)[ʔ/o-r-x <sup>{o}</sup> ]		'be long'	2.2.6
106.	[ʔ/o-r-z]	XIIa	'pack'	2.7.1
107.	[ʔ/o-s-f <sup>{o}</sup> ]	XII(a)	'gather, accumulate'	2.2.3
108.	{a}n[ʔ/o-s-k <sup>{o}</sup> ] x		'be occupied with, engaged in, at work on'	2.3.1; 2.10.3
109.	[ʔ/o-s-k]	IIa	'practice (medicine, etc.)'	2.7.2
110.	[ʔ/o-s-k]	VI	'deal with, have an affair with, quarrel with'	2.10.2
111.	[ʔ/o-s-r]	XIa	'forbid'	2.7.1
112.	(ʔ/o-s-r]	Ia	'gaol'	2.7.1
113.	[ʔ/o-s-j/o <sup>{o}</sup> ]	I(a)	'be done'	2.2.3
114.	[ʔ/o-{-m]	IIIa	'accuse'	2.7.3
115.	[ʔ/o-{-r <sup>{o}</sup> ]	I(ă)	'be rich'	2.2.6
116.	{a}n(x)[ʔ/o-t-f <sup>{o}</sup> ]		'wrap'	2.2.3; 2.10.1
117.	[ʔ/o-t-k]	XIII	'copy'	2.7.3
118.	{a}n [ʔ/o-t-m <sup>{o}</sup> ] (x)		'be impenetrable'	2.2.3
119.	{a}n [ʔ/o-v-d] (x)		'work, labour'	2.5.1
120.	[ʔ/o-v-r]	XII(a) and XVII(a)	'pass (by, through), move into'	2.5.1
121.	[ʔ/o-x-l <sup>{o}</sup> ]	V	'be consumed, wasted'	2.10.3
122.	{a}a[ʔ/o-x-l] g		'eat'	2.7.1

123.	[ʔ/ə-ʔ-z]{ <sup>0</sup> / <sub>ʔ</sub> }	XII(a)	'be gripped, clutched'	2.2.3; 2.10.3
124.	[ʔ/ə-z-l]	XIII.	'run out of'	2.5.4
125.	[ʔ/ə-z-n]	IIa	'listen'	2.6.2
126.	n(x)[ʔ/ə-z-r]		'get help from, be assisted by'	2.10.3
127.	[ʔ/ə-z-v]	Ia	'abandon, leave, quit'	2.7.1
128.	[ʔ/ə-z-v]	XIIa	'leave behind'	2.7.1

b

129.	[b/v-ʔ/ə]	XVI(a)	'come'	2.5.1
130.	[b/v-ʔ/ə-r]	XIa	'explain'	2.7.5
131.	[b/v-ʔ/ə-r]	I	'burn'	
132.	[b/v-ʔ/ə-t]	IIa	'kick'	2.7.2
133.	[b/v-c-r]	Ia	'pick (grapes)'	2.7.1
134.	[b/v-ʔ-r]{ <sup>0</sup> / <sub>ʔ</sub> }	I(a)	'be fortified'	2.2.5
135.	[b-c-r]	XII	'situate oneself behind fortifications'	2.10.1
136.	[b/v-d-d]{ <sup>0</sup> / <sub>Ac</sub> }	XII	'be solitary'	2.8.1
137.	[b/v-d-d]	VIIa	'isolate'	2.7.5
138.	[b/v-d-d]	Ia	'insulate (electricity)'	2.7.5
139.	[b/v-d-k]	V(a)	'examine'	2.7.1
140.	[b-d-l]{ <sup>0</sup> / <sub>Ac</sub> }	XIII	'be an isolationist (Politic.)'	2.8.1
141.	[b/v-d-l]	VIIa	'distinguish'	2.7.3
142.	[b/v-d-r]	Ia and <del>IX</del>	'entertain'	2.7.5; 2.10.3
143.	[b/v-g-d]	IIa	'betray, commit adultery'	2.7.2
144.	[b/v-g-r]{ <sup>0</sup> / <sub>ʔ</sub> }	I	'be adult, be older'	2.4
145.	[b/v-h-k]{ <sup>0</sup> / <sub>ʔ</sub> }	I	'be shining, glittering'	2.3.2
146.	[b/v-h-l]{ <sup>0</sup> / <sub>ʔ</sub> }	V(ā)	'be startled, frightened'	2.2.2; 2.10.3
147.	[b-h-m]{ <sup>0</sup> / <sub>ʔ</sub> }	I(ā)	'be beastly, coarse, animal-like'	2.2.5; 2.3.1

148.	[b/v-h-r <sup>{o}</sup> ]	I	'be clear (sky etc.)'	2.4
149.	{a}n,ge[b/v-h-r <sup>{o}</sup> ] (c)		'be clear (mentally)'	2.2.6
150.	[b/v-k-2/o <sup>{o}</sup> ]	I(ä)	'be split, cracked'	2.2.5
151.	[b/v-k-r]	XII	'visit, visit at'	2.6.4
152.	[b/v-k-r]	Ia	'review, criticize'	2.7.5
153.	[b-k-]	I	'be called for'	
154.	[b/v-k-]	IIIa	'ask (someone to do something etc.)'	2.6.2 2.7.5
155.	[b/v-k-]	IVa	'ask for'	2.7.6
156.	[b/v-k/x-j/o]	I and III	'cry, weep'	2.6.3
157.	[b/v-l-2/o]	XII	'disappear'	2.5.4 2.10.3
158.	[b/v-l -2/o]	Ia	'swallow'	2.7.1
159.	[b-l-f]	IIIa	'tell a lie'	2.7.5
160.	{b/v-l-l <sup>{o}</sup> ]	XII(ä)	'be assimilated'	2.2.5
161.	[b/v-l-m <sup>{o}</sup> ]	V(ä)	'be checked, curbed'	2.2.3
162.	n(x)[b/v-l- <sup>{o}</sup> ] Ac		'be a detective'	2.8.2
163.	n(x)[b-l-t <sup>{o}</sup> ] Ac		'be outstanding'	2.8.1
164.	[b/v-l-t <sup>{o}</sup> ]	I(ä)	'stand out, be conspicuous'	2.3.1 2.10.3
165.	[b/v-l-j/o <sup>{o}</sup> ]	I	'be worn out'	2.4
166.	[b/v-l-j/o]	XII	'spend (time)'	2.6.4
167.	n(x)[b/v-l-j/o]		'have a nice time'	
168.	{a}n(x)[b/v-n-j/o <sup>{o}</sup> ]		'build'	2.2.3
169.	[b/v-r-?/o]	Ia	'create'	2.7.1
170.	[b/v-r-?/o <sup>{o}</sup> ]	V(ä)	'be healthy'	2.2.4 2.10.3
171.	[b-r-g]	XIV	'screw oneself into'	2.5.5
172.	[b/v-r-g <sup>{o}</sup> ]	XIV(a)	'be screwed in'	2.2.6
173.	{b-r-r]	XI	'learn, discover, find out'	2.5.5
174.	[b/v-r-r <sup>{o}</sup> ]	XI(ä)	'be clear (mentally)'	2.2.6



175.	[b/v-r-r]	Ia and IX	'investigate, look into a matter (e.g. in a law court)'	2.7.5; 2.10.3
176.	[b/v-r-r]	Ia	'cull'	2.7.5
177.	[b/v-r-]	Va	'brush'	2.7.3; 2.10.1
178.	[b/v-r-ʃ]	V(ǎ) and XIII(ǎ)	'escape, run away'	2.5.1; 2.10.3
179.	[b/v-s-m]	Ia	'put on a perfume'	2.7.5; 2.10.1
180.	[b-s-r]	IIIa	'inform'	2.7.5
181.	[b/v-s-s- <sup>o</sup> ]	XII(ǎ)	'be settled, well established'	2.2.5
182.	[b/v- <sup>o</sup> -l- <sup>o</sup> ]	XII(ǎ)	'be cooked'	2.2.5
183.	[b/v- <sup>o</sup> -l- <sup>o</sup> ]	V	'be ripe'	2.4
184.	[b/v-t-?/o]	Ia	'utter'	2.7.5
185.	[b/v-t-?/o]	Ia	'express'	2.7.5
186.	n,x[b-t-?/o]		'express oneself'	2.10.1
187.	n,x[b-t-?/o]		'find expression in'	2.10.3
188.	[b/v-t-l- <sup>o</sup> ] <sub>Ac</sub>	I	'be lazy, indolent, idle'	2.8.1
189.	[b/v-t-l- <sup>o</sup> ]	V(ǎ)	'be neutralized'	2.2.5
190.	[b/v-t-l]	I(a)	'be cancelled'	2.5.2
191.	[b/v-x-l- <sup>o</sup> ]	I	'be sickening'	2.3.2
192.	[b/v-ʃ-n]	Xa	'examine'	2.7.1
193.	[b/v-ʃ-n]	VIIa	'distinguish'	2.7.3
194.	[b/v-ʃ-r]	IIa	'vote'	2.7.2
195.	[b/v-ʃ-r]	XIIIa	'choose, fix upon, pick out'	2.7.1
196.	[b/v-ʃ-]	Va	'mix, stir (tea etc.)'	2.7.1
197.	[b/v-j-l]	Ia	'put a stamp on'	2.7.5
198.	[b/v-j-m]	Ia	'direct (theatre)'	2.7.5
199.	[b/v-j- <sup>o</sup> ]	V(ǎ)	'be ashamed'	2.3.1; 2.10.3
200.	[b/v-j- <sup>o</sup> ] <sub>Ac</sub>	III	'be shy'	2.8.1

201.	[b/v-j-t <sup>{0}</sup> ]	I(ă)	'be domesticated'	2.2.5
202.	n,x[b/v-z]		'despise'	2.6.1
203.	[b/v-z-j/e <sup>{0}</sup> ]	I(ă)	'be despicable, contemptible'	2.2.5

## c

204.	[c-ʔ/e-d]	I(ă)	'March'	2.5.1
205.	[c-ʔ/e-k]	I and III	'shout, yell'	2.6.3
206.	[c-ʔ/e-r]	V(ă)	'regret, be sorry'	2.6.1; 2.10.3
207.	n/x[c-b-ʔ/e]		'vote'	
208.	[c-b-ʔ/e]	IIa	'point at'	2.7.4
209.	[c-b/v-ʔ/e <sup>{0}</sup> ]	VIII(a)	'be painted'	2.2.3
210.	[c-b/v-r <sup>{0}</sup> ]	I(a)	'accumulate'	2.2.3
211.	[c-b/v-t <sup>{0}</sup> ]	XII(a)	'pinch'	2.2.3; 2.10.3
212.	[c-c]	XIII	'appear suddenly, spring up'	2.5.4
213.	[c-c]	XIV	'peep (into)'	
214.	[c-d]	Ia	'catch, capture'	2.7.1
215.	[c-d-ʔ/e]	IIa	'salute (army)'	2.7.4
216.	[c-d-k <sup>{0}</sup> ]	III	'be right'	2.3.2
217.	[c-f]	XV(ă)	'float'	2.5.1
218.	[c-f]	VIIIa	'flood'	2.7.3 2.10.3
219.	[c-f-ʔ <sup>{0}</sup> ]	I(a)	'be huddled together'	2.2.5
220.	[c-f/p-r]	I	'hoot (car)'	2.6.3
221.	[c-f/p-j/e]	XVII	'observe (Reconnais- sance)'	2.7.2
222.	[c-h-r]	III	'declare'	2.7.3
222a.	[c-h-v <sup>{0}</sup> ]	V(a)	'be yellow'	2.2.4
223.	[c-l-ʔ/e <sup>{0}</sup> ]	I	'limp, walk lamely'	2.3.2
224.	[c-l-f]	IIa	'snipe at'	2.7.2

225.	a, su <sub>1</sub> [c-l-f]	XIa	'whack'	2.6.2; 2.7.3
226.	[c-l-l]	XIV	'sink, dive'	2.5.4
227.	[c-l-m]	Ia and IX	'photograph'	2.7.5; 2.10.3
228.	[c-l-v]	Ia	'crucify'	2.7.1
229.	[c-l-v]	I	'cross (make sign of cross over oneself)'	2.10.1
230.	[c-l-v <sup>{o}</sup> ]	VI(a)	'be crossed (swords etc.)'	2.2.5 2.10.2
231.	[c-l-ʒ]	III and X	'succeed in'	2.6.2; 2.10.3
232.	[c-l-ʒ]	Ia	'cross (river, sea etc.)'	2.7.1
233.	[c-l-j/o <sup>{o}</sup> ]	XII(ă)	'be roasted'	2.2.3
234.	[c-m]	I	'fast'	
235.	[c-m-d <sup>{o}</sup> ]	XVII(a)	'be clung'	2.2.2; 2.10.2
236.	[c-m-k <sup>{o}</sup> ]	I(a)	'be shrunken, shrivelled'	2.2.5
237.	[c-m-ʒ]	XIII(ă)	'grow, sprout'	2.5.1; 2.10.3
238.	[c-n-ʒ]	XIII(ă)	'parachute, sink down'	2.5.1; 2.10.3
239.	[c-p-j/o]	VIIIa	'cover, coat, plate'	2.7.5; 2.10.3
240.	[c-p-j/o]	III	'expect'	2.6.2
241.	[c-r-d <sup>{o}</sup> ]	I	'be hoarse, husky'	2.2.6
242.	[c-r-f <sup>{o}</sup> ]	I(a)	'be purified (gold etc.)'	2.2.3
243.	[c-r-f <sup>{o}</sup> ]	XIV(a)	'be part of, joined'	2.2.5
244.	[c-r-m <sup>{o}</sup> ]	I	'grate (on the ears)'	2.3.2
245.	[c-r-x]	Ia	'consume'	2.7.1
246.	n(f)[c-r-x] (x)		'need, be necessary'	2.6.2
247.	[c-r-ʒ]	I and III	'scream'	2.6.3
248.	[c-t-t]	XIIIa	'cite, quote'	2.7.5

249.	[c-j-c]	I	'chirp'	2.6.3
250.	[c-j-d]	VIIIa	'be supplied with'	2.7.5; 2.10.1
251.	[c-j-n]	X	'be excellent'	2.10.3
252.	[c-j-n]	XIa	'mention'	2.7.5
253.	n(b)[c-j-n] p	X(a)	'be characterized with, be marked by'	2.10.3
254.	[c-j-r]	Va	'draw, paint'	2.7.5
255.	n,x[c-j-r]		'appear, be drawn'	
256.	[c-j-t]	IIa	'obey'	2.7.6
257.	[c- <del>x</del> -k]	V(ă)	'laugh'	2.6.3; 2.10.3
258.	[c- <del>x</del> -k]	I	'giggle'	2.6.3

d

259.	{ă}n(f)[d- <del>z</del> /o-g] (c)		'be worried'	2.6.1; 2.6.2; 2.10.3
260.	[d- <del>z</del> /o-g]	IIa	'take care of'	2.7.2
261.	[d- <del>z</del> /o-j/o]	XII	'glide (in the air)'	2.5.4
262.	[d-b/v-k]{ <sup>o</sup> / <sub>g</sub> }]	XVII(a)	'be stuck, glued'	2.2.2; 2.10.2
263.	n(b)[d-b/v-k] p		'be infected, catch a disease)'	2.5.1
264.	n,n'[d-b-r] (f)		'agree with (about a meeting etc.)'	2.6.2; 2.10.2
265.	[d-b-r]	Ia	'vanquish, exter- minate'	2.7.3
266.	n,n'[d-b-r] (d)		'speak with someone'	2.7.5 2.10.2
267.	a,ob[d-b-r] (d)		'talk to'	2.7.5
268.	[d-d-j/o]	I	'toddle'	2.5.5
269.	[d-f-k]{ <sup>o</sup> / <sub>g</sub> }]	V(ă)	'be done for'	2.2.3
270.	[d-f-k]	Ia	'have a sexual inter- course (vulgar)'	2.7.1
271.	[d-f-k]	I	'go well'	

272.	[d-f/p-s]	XIIa	'be printed'	2.7.3
273.	[d-g]	Va	'fish'	2.7.1
274.	[d-g-l]	IIa	'stand for (a cause)'	2.7.2
275.	[d-g-l]	Ia	'present (arms)'	2.7.5
276.	[d-g-m]	XIa	'demonstrate, illustrate'	2.7.3
277.	[d-g-r]	XV	'set (on eggs)'	
278.	[d-h-m]	V(ǎ)	'be astounded'	2.5.1; 2.10.3
279.	[d-h-r]	I(ǎ)	'gallop'	2.5.1
280.	[d-h-j/o <sup>{o}</sup> ]	I	'fade'	2.4
281.	[d-k-?/o <sup>{o}</sup> ]	V(ǎ)	'be depressed'	2.3.1 2.10.3
282.	[d-k-?/o]	Ia	'put down, suppress (revolt etc.)'	2.10.3
283.	[d-k-r <sup>{o}</sup> ]	V(ǎ)	'be pricked, stabbed'	2.2.3; 2.10.3
284.	[d-l-f]	XIII(ǎ)	'leak (information)'	2.5.1
285.	[d-l-f <sup>{o}</sup> ]	XIII	'leak'	2.3.2; 2.10.3
286.	[d-l-g]	XV	'skip (over)'	2.5.5
287.	[d-l-k <sup>{o}</sup> ]	I(a)	'glow, burn'	2.2.2
288.	[d-l-l]	Ia	'thin out'	2.7.5
289.	[d-l-j/o]	XVIa	'draw (water), pull out remnants of solid or liquid'	2.7.1
290.	[d-m-j/o]	XI	'seem to'	
291.	[d-m-j/o <sup>{o}</sup> ]	VII	'resemble'	2.3.2
292.	[d-m-j/o]	III	'imagine'	2.6.2
293.	a,g [d-m-j/o] (x)		'liken'	2.7.5
294.	a(a!..a <sup>n</sup> ),g[d-n]		'discuss'	2.7.1
295.	a,g [d-n] (x)		'condemn, sentence (court)'	2.7.1
296.	[d-r-g <sup>{o}</sup> ]	I(a)	'be graded, terraced (mountain)'	2.2.5

297.	a,g [d-r-g] (x)		'grade someone as'	2.7.5
298.	[d-r-s]	Va	'run over (car)'	2.7.1
299.	[d-r-]	IIIIa	'demand that, ask to'	2.7.1
300.	[d-r-]	XIa	'claim from, demand'	2.7.1
301.	[d-r-x]	IIa	'step on'	2.7.2
302.	[d-r-x <sup>{o}</sup> ]	I(a)	'cock (rifle)'	2.2.3
303.	[d-r-x]	Xa	'instruct, train, guide'	2.7.3
304.	[d-]	Ia	'thrash'	2.7.1
305.	a,g [d-]-n] (x)		'Fertilize'	2.7.5
306.	[d-v-v]	Ia	'force to speak'	2.7.5
307.	[d-v-]	XIa	'report'	2.7.5
308.	[d-]	XIIIIa	'depose'	2.7.3
309.	[d-]-f]	XIV(a)	'be pushed'	2.5.3
310.	[d-]-k]	XIV(a)	'be shoved'	2.5.3
311.	[d-]-s <sup>{o}</sup> ]	XIV(a)	'be compressed, squashed, packed tight'	2.2.3
312.	[d-]-j/o]	V	'be repelled by'	2.5.4
313.	[d-]-j/o]	Ia	'turn down, reject'	2.7.1
314.	a,g [d-]-j/o] (a)		'postpone'	2.7.1

f

315.	[f/p-2/o-l]	I(ă)	'work, operate (machine, etc.)'	2.5.1
316.	[f/p-2/o-r <sup>{o}</sup> ]	I(ă)	'be splendid, glorious'	2.3.1
317.	[f/p-c-2/o <sup>{o}</sup> ]	V(ă)	'be wounded'	2.2.3; 2.10.3
318.	[f-c-c]	VIIIIa	'bomb'	2.7.3
319.	[f/p-c-c <sup>{o}</sup> ]	I(a)	'be exploded'	2.2.5
320.	[f/p-c- <sup>{o}</sup> ]	I(a)	'crack (break)'	2.2.5
321.	{a}n (p),(y)	[f/p-c-j/o <sup>{o}</sup> ]	'compensate'	2.2.5; 2.10.3

322.	[f/p-d-r]	Ia and IX	'powder (cosmetics)'	2.7.5; 2.10.1
323.	[f/p-d-j/o]	XIdr	'redeem, buy back'	2.7.1
324.	[f/p-g-2/o]{ <sup>o</sup> / <sub>r</sub> }	V(ă)	'get hurt (feelings) insulted'	2.2.3; 2.10.3
325.	[f/p-g-]	VI(ă)	'meet with'	2.5.1
326.	x,y[f/p-g-]		'meet'	2.10.2
327.	[f/p-h-k]	I	'yawn'	2.6.3
328.	[f/p-k-2/o]	I	'go off, blow up'	2.5.5
329.	[f-k-2/o]		'confiscate'	2.7.3
330.	[f-k-d]	XIIa	'deposit (bank etc.)'	2.7.3
331.	[f/p-k-d]{ <sup>o</sup> / <sub>Ac</sub> }	IIa	'be a commander'	2.8.2
332.	[f/p-k-d]	Ia	'call the roll'	2.7.1
333.	[f/p-k-#]	IIa	'supervise'	2.7.6
334.	[f/p-k-#]{ <sup>o</sup> / <sub>r</sub> }	I(a)	'open (eyes)'	2.2.3
335.	[f/p-l-2/o]	III and V	'be surprised'	2.6.1; 2.10.3
336.	[f-l-c]	I	'fart'	2.6.3
337.	[f-l-g]	XVII	'sail'	2.5.5
338.	{a}n [f/p-l-g]{ <sup>o</sup> / <sub>r</sub> }		'split'	2.2.5
339.	[f/p-l-g]	XIII		2.5.5
340.	[f-l-k]	XIb	'slap (face)'	2.7.3
341.	[f/p-l-]	XIV	'invade'	2.5.4
342.	[f/p-l-t]	XIII(a)	'be discharged, emitted, be fired (rifle etc.) unintentionally'	2.5.1 2.10.3
343.	[f-l-#]	XIV(ă)	'smuggle in'	2.5.2; 2.10.1
344.	[f-l-#]	XIdr	'pinch (steal)'	2.7.5
345.	[f-l-j/o]	Ia	'discriminate'	2.7.3
346.	[f/p-n-k]{ <sup>o</sup> / <sub>Ac</sub> }	I(a) and IX	'be pampered, spoiled (child)'	2.8.1 2.10.3

347.	[f/p-n-j/e <sup>o</sup> ]	XVII(a)	'face, be turned in the direction of'	2.5.1
348.	[f/p-n-j/e <sup>o</sup> ]	VIII(a)	'be clear, vacant'	2.2.5
349.	[f-r-2/e]	Ia	'unsettle, disturb (the peace)'	2.7.3
350.	[f-r-2/e]	Xa	'disturb'	2.7.3
351.	[f/p-r-2/e <sup>o</sup> ]	V(a)	'be dishevelled'	2.2.3; 2.10.3
352.	[f/p-r-2/e]	Ia	'repay'	2.7.1
353.	[f/p-r-c <sup>o</sup> ]	V(a)	'burst up (a dam etc.)'	2.2.3
354.	[f/p-r-c]	Ia	'crack (safe etc.)'	2.7.1
355.	[f/p-r-c <sup>o</sup> ] <sub>(Ac)</sub>	XIV	'break into (a flat etc.)'	2.8.2
356.	[f/p-r-d <sup>o</sup> ]	I(ä)	'be disintegrated'	2.2.5
357.	[f/p-r-d]	XVI(a)	'separate'	2.5.1; 2.10.2; 2.10.3
358.	{a}n(x)[f/p-r-k <sup>o</sup> ]		'be dismantled, be broken into, component parts'	2.2.5
359.	[f/p-r-m <sup>o</sup> ]	I(a)	'be undone (stitches), unbuttoned'	2.2.3
360.	[f/p-r-r <sup>o</sup> ]	I(a)	'be broken into crumbs'	2.2.5
361.	a,y <sub>(x)</sub> [f/p-r-s]		'slice'	2.7.1
362.	[f-r-]	III and XIIIa	'discharge, excrete'	2.7.3 2.10.3
363.	a,g <sub>(x)</sub> [f-r-]		'allocate'	2.7.3
364.	[f/p-r-]	XIII	'withdraw, seclude oneself from'	2.5.4
365.	n,b <sub>x</sub> [f/p-r-]	IIIa	'interpret'	2.7.5; 2.10.3
366.	[f/p-r- <sup>o</sup> ]	Ia	'be explicit'	2.2.5
367.	[f/p-r-t]	Ia	'detail, give something in details'	2.7.5
268.	[f/p-r-t]	Ia	'change (money)'	2.7.1
369.	[f/p-r- <sup>o</sup> ]	I(ä)	'flourish, bloom'	2.3.1



370.	[f/p-r- <del>x</del> ]	XII(ǎ)	'hover, fly'	2.5.1
371.	[f-s-d]	III	'lose (money etc.)'	2.6.2
372.	[f/p-s-k]	Ia	'punctuate (sentence)'	2.7.5
373.	[f/p-s-k]	I(a)	'stop'	2.5.1
374.	[f/p-s-k <sup>{o}</sup> ]	I(a)	'be straddled'	2.2.5
375.	[f/p-s-l]	Va	'carve (a sculpture)'	2.7.5
376.	a,g [f/p-s-l] (x)		'disqualify'	2.7.1
377.	[f/p- <sup>{o}</sup> -2/o]	IIa	'sin'	2.7.2
378.	[f- <sup>{o}</sup> -l]	Ia	'roll up (sleeves etc.)'	2.7.3
379.	[f- <sup>{o}</sup> -r]	I	'defrost'	2.5.5
380.	[f/p- <sup>{o}</sup> -r]	VI(ǎ)	'reach a compromise'	2.5.2; 2.10.3
380a.	[f/p- <sup>{o}</sup> -t]		'strip'	2.7.3; 2.10.1
381.	[f/p-t-l <sup>{o}</sup> ]	I(a)	'be twisted'	2.2.5
382.	[f/p-t-m <sup>{o}</sup> ]	I(a) and IX	'be fattened, crammed'	2.2.5
383.	[f/p-t-r]	XIIa	'dismiss, sack'	2.7.5; 2.10.1
384.	[f/p-t-r <sup>{o}</sup> ]	VIII(ǎ)	'be free (from certain obligations)'	2.2.3; 2.10.3
385.	[f/p-t-r <sup>{o}</sup> ]	I(a)	'be solved'	2.2.3
386.	n(x)[f/p-t-r]		'get rid of'	2.3.4
386a.	[f-t-r]	I	'die'	2.5.4
387.	[f/p-t- <del>x</del> <sup>{o}</sup> ]	I(ǎ)	'(well) developed'	2.2.5
388.	[f/p-t- <del>x</del> <sup>{o}</sup> ]	I(a)	'be open'	2.2.3
389.	[f/p-t-j/o]	IIIa and IX	'be enticed, seduced'	2.7.5; 2.10.3
390.	{ǎ}n(n') (c)[f/p-j-s <sup>{o}</sup> ]		'be reconciled, pacified'	2.2.5; 2.10.2
391.	[f/p-j- <del>x</del> <sup>{o}</sup> ]	I(a)	'be covered with soot'	2.2.5; 2.10.1
392.	[f/p- <del>x</del> -d]	III(ǎ) and V(ǎ)	'be afraid'	2.6.1; 2.6.2; 2.10.3

393.	[f- <del>x</del> -t]	XIIIIa	'subtract'	2.7.3
394.	[f/p- <del>x</del> -t <sup>{o}</sup> ]	I(ă)	'be less, diminished'	2.3.1
395.	[f/p-z-l <sup>{o}</sup> ]	XVII	'be cross-eyed'	2.3.2
396.	[f/p-z-r <sup>{o}</sup> ]	XII(a)	'be scattered'	2.2.5

## g

397.	[g- <sup>o</sup> /o-j/o <sup>{o}</sup> <sub>Ac</sub> ]	III	'be proud'	2.8.1
398.	[g- <sup>o</sup> /o-l]	V(ă)	'get disgusted'	2.5.1; 2.10.3
399.	[g- <sup>o</sup> /o-r]	IVa	'tell off'	2.7.2
400.	[g- <sup>o</sup> /o-j/o]	I	'moo'	2.6.3
401.	{a} <sub>n</sub> [g-b-l] (x)		'be limited to'	2.6.3
402.	n(x)[g-b/v-l]		'be on the verge of, border on'	
403.	[g-b-v <sup>{o}</sup> ]	I(a)	'be piled up'	2.2.5
404.	[g-b-r <sup>{o}</sup> ]	V(ă)	'increase'	2.2.6
405.	n,x[g-b-r]		'overcome'	2.5.5
406.	[g-b/v-r]	IIa	'overpower'	2.7.2
407.	[g-d]	IVa	'tell'	2.6.2
408.	[g-d-l]	I(ă) and IX	'grow up, grow (plants, children)'	2.5.1 2.10.3
409.	[g-d-l <sup>{o}</sup> ]	I(a)	'be large'	2.2.2
410.	[g-d-r]	Ia	'fence (encircle)'	2.7.5
411.	a,g [g-d-r] (x)		'define'	2.7.3
412.	[g-h-c]	Ia	'iron (clothes)'	2.7.5
413.	[g-h-k]	I	'hiccup'	2.6.3
414.	[g-l-c]	XV	'skid'	2.5.5
415.	[g-l-d]	I	'scar over, crust'	2.5.5
416.	[g-l-m]	Ia	'play (a role, theatre)'	2.7.5
417.	[g-l-m]	Ia	'embody'	2.7.5; 2.10.3

418.	[g-l-]	XV	'glide, skate, slide'	2.5.4
419.	[g-l-]	I	'boil over'	2.5.4
420.	[g-l-ʃ]	Ia and IX	'shave'	2.7.5; 2.10.1; 2.10.3
421.	{ǎ}n(ab) (al)[g-l-j/q]		'exile'	2.5.1.
422.	[g-l-j/ə]{ǎ}	XI(a)		2.2.5
423.	[g-m-d]{ǎ}	I(ǎ)	'be a dwarf'	2.2.5; 2.3.1
424.	[g-m-l]	XIII(ǎ)	'be weaned of'	2.5.3
425.	[g-m-r]{ǎ}	I(a)	'be over, finished'	2.2.3
426.	[g-n-v]	XIdr	'steal'	2.7.1
427.	[g-n-v]	XIVa	'sneak in'	2.7.3; 2.10.1
428.	[g-n-j/ə]	Ia	'denounce'	2.7.5
429.	[g-n-ʃ]	III	'groan'	2.6.3
430.	[g-n-z]	Ia	'file away; not publish a manuscript originally intended for publication'	2.7.1
431.	[g-p-f]	Ia	'caress'	2.7.5; 2.10.2
431a.	[g-r]		'live (in a place)'	2.6.4
432.	[g-r-d]{ǎ}	XVI(a)	'be rubbed off'	2.2.5
433.	[g-r-d]	Ia	'scratch'	2.7.5; 2.10.1
434.	[g-r-f]	XII	'be swept'	2.5.5
435.	[g-r-f]	Va	'rake'	2.7.5
436.	[g-r-m]	Ia and XIb	'cause'	2.7.1; 2.10.3
437.	n(x)[g-r-r]		'drag after'	2.5.3; 2.10.3
438.	[g-r-r]	Va	'drag'	2.7.1; 2.10.3
439.	[g-r-]{ǎ}	VI and XVI	'divorce'	2.4; 2.10.2
440.	[g-r-]	XIIIa	'drive out, expel'	2.7.5

441.	[g-r-j/o <sup>o</sup> ]	V(ă)	'be stirred up; aroused (sexually etc.)'	2.2.5; 2.10.3
442.	[g-r-z]	Ia	'grease'	2.7.5
443.	[g-[-m]	I(ă)	'come true, implement, materialize'	2.5.1
444.	[g-[-r]{ <sup>o</sup> }]	I(a)	'be bridged, closed (gap; between opposing views etc.)'	2.2.5; 2.10.3
445.	[g-v-h]{ <sup>o</sup> }]	I(a)	'be tall, high'	2.2.2
446.	[g-v-n]{ <sup>o</sup> }]	I(a)	'be varied, multi-coloured'	2.2.5
447.	[g-#-n]	XVII	'stoop over'	
448.	[g-j/o-r]{ <sup>o</sup> }]	I(ă)	'be a convert to Judaism'	2.2.5
449.	[g-j-s]{ <sup>o</sup> }]	XIV(ă)	'be a recruit, enlisted'	2.2.5
450.	[g-z-l]	XIdr	'rob, deprive'	2.7.1
451.	[g-z-m]	Va	'prune'	2.7.1
452.	[g-z-m]	Ia	'exaggerate, overdo'	2.7.3
453.	[g-z-r]	Va and XIIIa	'cut (with scissors)'	2.7.1
454.	[g-z-z]	Va	'shear (sheep), cut (hair)'	2.7.1

h

455.	[h-d-f]{ <sup>o</sup> }]	I(a)	'be pushed backwards suddenly'	2.2.3
456.	[h-d-f]	Ia	'ward off (attack)'	2.7.1
457.	[h-d-k]{ <sup>o</sup> }]	I(a)	'be fastened (knot), strengthened (ties)'	2.2.5
458.	[h-f/p-x]{ <sup>o</sup> }]	I(a)	'be inverted, turned over'	2.2.3
459.	{a <sup>n</sup> [h-f-x] (x)}		'convert, turn into'	2.5.3
460.	[h-g-j/o]	Ia	'conceive (an idea)'	2.7.1
461.	[h-l-l]	Ia	'graise'	2.7.5
462a	[h-k-j/o]	Va	'hit'	2.7.5

462.	[h-l-x/v/j/o-l-x]	I(a)	'go, walk'	2.5.1
463.	[h-l-x]	I	'walk about, to and fro'	2.5.5
464.	[h-m-m <sup>{o}</sup> ]	V(ă)	'be stunned'	2.2.5; 2.10.3
465.	[h-r-g <sup>{o}</sup> ]	Va	'be killed'	2.2.3
466.	[h-r-s <sup>{o}</sup> ]	I(a)	'be destroyed'	2.2.3
467.	[h-r-j/o]	IX	'become pregnant'	2.5.4
468.	[h-s-s]	III	'hesitate'	2.6.2
469.	[h-j-j/o <sup>{o}</sup> ]	I	'be'	2.6.4

k

470.	[k/x-2/o-r <sup>{o}</sup> ]	V(ă)	'be ugly'	2.2.5; 2.10.3
471.	n(x)[k/x-2/o-s]		'be angry'	2.6.1
472.	[k/x-2/o-v]	XI	'ache'	2.6.1
473.	a, g <sub>(x)</sub> [k-b/v-2/o]		'fix (appointment etc.)'	2.7.1
474.	[k-b/v-2/o]	Ia	'establish, fix'	2.7.1
475.	[k-b-c <sup>{o}</sup> ]	I(a)	'be gathered, assembled'	2.2.5
476.	[k/x-b-d]	Ia	'respect'	2.7.5
477.	n(b) <sub>p</sub> [k/x-b-d]	and VIIIa	'offer refreshments (to guests)'	2.7.5; 2.10.3
478.	[k/x-b/v-d <sup>{o}</sup> ]	I(ă)	'be heavy'	2.3.1
479.	[k-b/v-l]	III	'complain'	2.6.2
480.	[k-b-l <sup>{o}</sup> ]	VII(a)	'be parallel'	2.3.1
481.	[k-b-l]	VIIa	'parallel'	2.7.3
482.	[k-b-l]	IX	'be received (for an appointment etc.)'	2.10.3
483.	n, x <sub>y</sub> [k-b-l]		'be received (results of an experiment etc.)'	2.5.5
484.	[k-b-l]	III	'get (the "flu", blows etc.)'	2.6.2
484a.	[k-b-l]	XI <sub>dr</sub>	'receive'	2.7.5

485.	[k-b/v-r <sup>{o}</sup> ]	XII(a)	'bury'	2.2.3
486.	[k/x-b-s]	XIIa	'be washed (laundry)'	2.7.5
487.	[k/x-b/v-]	Ia	'conquer'	2.7.1
488.	[k/x-b-j/o <sup>{o}</sup> ]	I(a)	'be put out, extinguished'	2.2.2
489.	[k-c-2/o]	Va	'plane (wood)'	2.7.3
490.	[k-c-c <sup>{o}</sup> ]	V(a)	'be chopped'	2.2.5
491.	[k-c-f <sup>{o}</sup> ]	V(ă)	'be foamy'	2.2.6
492.	[k-c-r]	Va	'reap (harvest)'	2.7.1
493.	[k-c-r <sup>{o}</sup> ]	I(a)	'be short'	2.2.5
494.	[k-c-v]	XIb	'allot, allocate, apportion'	2.7.3
495.	[k-d-m]	V(ă)	'make progress'	2.5.2
496.	[k-d-m]	III	'be early (as in 'I am early')'	2.6.2
497.	[k-d-m]	I(ă)	'be early (as in 'it is early')'	
498.	{a}n [k-d-m] (x)		'precede, come before'	
499.	[k-d-r <sup>{o}</sup> ]	I(ă)	'be a ball, be spherical, ball like'	2.2.5
500.	[k-d-#]	XIIa	'bore, drill'	2.7.1
501.	[k-f/p-?/o <sup>{o}</sup> ]	V(ă)	'be frozen'	2.2.2
502.	[k-f/p-c]	I(a)	'bounce, jump'	2.5.1
503.	[k-f-f <sup>{o}</sup> ]	I(a)	'be bent, bowed, inclined'	2.2.5; 2.10.1
504.	[k-h-l <sup>{o}</sup> ]	I(ă)	'be assembled, congregated'	2.2.6
505.	[k-l-?/o]	XIIa	'gaol, imprison'	2.7.1
506.	[k-l-2/o]	IIa	'hit (target)'	2.7.2
507.	[k-l-2/o]	XIV	'chance to'	2.3.4
508.	[k-l-f <sup>{o}</sup> ]	XVI(a)	'be peeled, be off (skin)'	2.2.5; 2.10.1
509.	[k-l-l]	IIIa	'curse'	2.7.5
510.	[k/x-l-l <sup>{o}</sup> ]	XII(a)	'be included'	2.3.1; 2.10.3

511.	[k-l-t <sup>{o}</sup> ]	XV(ă)	'be recorded (tape recorder etc.)'	2.2.2; 2.10.3
512.	[k-l-t]	XII(ă)	'be absorbed, strike roots'	2.5.2; 2.10.3
513.	[k-l-#]	Ia	'take a shower'	2.7.5; 2.10.1
514.	[k-m]	XVI(a)	'stand up'	2.5.1
515.	[k-m]	Ia	'set up, erect (building), pitch (tent)'	2.7.3
516.	n(x)[k-m-c <sup>{o}</sup> <sub>Ac</sub> ]		'be stingy'	2.8.1
517.	{ă}n(x)[k-m-m <sup>{o}</sup> ] (c)		'be aroused (against)	2.10.3
518.	[k-m-t <sup>{o}</sup> ]	I(a)	'be wrinkled, creased'	2.2.5
519.	n(x)[k-n-?/o]		'envy'	2.6.1
520.	[k/x-n-?/o]	IX	'capitulate, surrender submit'	2.5.4 2.10.3
521.	a,g [k/x-n-n/o] (x)		'be rady'	2.7.3; 2.10.1
522.	a,g [k-n-s] (x)	VIIIa	'fine (penalty)'	2.7.1
523.	[k/x-n-s <sup>{o}</sup> ]	VII(ă)	'be assembled, convened'	2.2.5
524.	[k/x-n-s]	XIV(a)	'enter, go in'	2.5.1
525.	[k-n-j/o]	XIb	'bestow, impart'	2.7.3; 2.7.8
526.	[k-n-j/o]	XIdr	'buy'	2.7.1; 2.7.8
527.	[k/x-n-j/o]	IIIa	'name, nickname'	2.7.5
528.	[k-n-#]	Va	'wipe (nose etc.)'	2.7.5
529.	[k-p-d]	III	'insist, be strict, particular'	2.6.2
530.	[k-p-l <sup>{o}</sup> ]	I(a)	'be folded, roll up'	2.2.5
531.	[k/x-p-l <sup>{o}</sup> ]	I(a)	'be double'	2.2.2
532.	{ă}n(x)[k-p-# <sup>{o}</sup> ]		'be deprived'	2.2.5
533.	[k-r-?/o]	Ia	'read'	2.7.1
534.	[k-r-?/o]	XIb	'read out'	2.7.3
535.	[k-r-?/o <sup>{o}</sup> ]	I(a)	'be torn'	2.2.3

536.	[k/x-r-2/o <sup>o</sup> ]		'squat, kneel'	2.3.1
537.	[k-r-c]	IIa	'winks'	2.7.2
538.	[k-r-n]	III and XIII	'radiate'	2.6.2; 2.10.3
539.	[k-r-n]	XVa	'screen, project (film)'	2.7.3; 2.10.3
540.	[k-r-r/o <sup>o</sup> ]	V(ă)	'be cold'	2.2.5 2.10.3
541.	[k-r-r <sup>o</sup> ]	I	'have a cold'	2.4; 2.10.3
542.	[k-r- <sup>o</sup> ]	I(ă)	'be congealed'	2.2.6
543.	[k/x-r-t]	Va	'cut down (wood)'	2.7.1
544.	[k-r-v <sup>o</sup> ]	XVII(a)	'be close, near'	2.2.6; 2.10.2
545.	[k-r-v <sup>o</sup> ]	XVII(ă)	'be close (spiritually)'	2.2.5; 2.10.2
546.	[k-r-j/o]	I	'happen'	2.6.4
547.	[k-r- <sup>o</sup> ]	I(ă)	'be bald'	2.2.6
548.	[k/x-s-f <sup>o</sup> ]	V(a)	'be silvery, be grey-haired'	2.2.4
549.	[k-s-m <sup>o</sup> ]	V(ă)	'be fascinated'	2.3.1; 2.10.3
550.	[k-s-m]	XI	'appeal to'	
551.	[k/x-s-j/o <sup>o</sup> ]	VIII(a)	'be covered'	2.2.5; 2.10.1; 2.10.3
552.	[k/x-]-l]	X(ă)	'fail'	2.5.1; 2.10.3
553.	n, n' [k-]-r <sup>o</sup> ] (ge)		'believe a connection to exist between'	2.4; 2.10.3
554.	[k-]-r <sup>o</sup> ]	XVIIa	'be tied to'	2.2.3
555.	[k-]-r <sup>o</sup> ]	XVII(ă)	'be attached to'	2.2.5; 2.10.2
556.	[k-]-v]	IIa	'listen'	2.6.2
557.	[k-]-j/o <sup>o</sup> ]	I(ă)	'be hard'	2.2.6
558.	[k-]-j/o]	III	'find it difficult to'	
559.	[k-t-f]	XVIa	'pick, pluck (flowers etc.)'	2.7.1



560.	[k-t-n <sup>{ø}</sup> ]	I(ă)	'be small'	2.2.6
561.	[k/x-t-r]	Ia	'encircle, surround (military)'	2.7.5
562.	{ă}b, bt and {ă}a, ob by (f) [k/x-t-v]		'write'	2.7.1; 2.10.2
563.	[k-x-l <sup>{ø}</sup> ]	V(a)	'be blue'	2.2.4
564.	[k-x-]	Ia	'deny'	2.7.3
565.	[k-x-v]	XII	'star (film etc.)'	2.6.4
566.	[k-j-f]	XI	'feel like (doing something)'	
567.	[k-j-f]	I	'have a good time'	
568.	a, g [k-j-m] (x)		'maintain, sustain'	2.7.5; 2.10.3
569.	[k-j-m]	I	'materialize'	2.5.5
570.	[k-j-m]	Ia	'fulfil (promise etc.)'	2.7.5
571.	[k-j-m]	I(a)	'take place, be held'	2.5.2
572.	[k/x-j-r]	Ia	'mould'	2.7.5
573.	[k/x-z-v]	I(ă)	'prove false'	2.5.1

1

574.	[l-2/e-g]	IIa	'ridicule'	2.7.2
575.	[l-2/e-m]	Ia	'nationalize'	2.7.3
576.	[l-2/e-s]	III	'chew'	2.6.2
577.	[l-b-n <sup>{ø}</sup> ]	I(a)	'be red hot (iron)'	2.2.5
578.	[l-b/v-n <sup>{ø}</sup> ]	V(a)	'be white'	2.2.4
579.	[l-b/v-]	VIII(a)	'wear (clothes)'	2.6.2
580.	[l-b-]	Ia	'dress'	2.7.3; 2.10.1
581.	[l-b-t]	III	'be bewildered, unable to decide'	2.6.2
582.	[l-b-j/e <sup>{ø}</sup> ]	V(ă)	'be inflamed (emotions)'	2.2.5; 2.10.3
583.	[l-g-m]	Ia	'sip'	2.7.1
584.	[l-h-v <sup>{ø}</sup> ]	Vă	'be excited, enthusiastic'	2.2.6; 2.10.3

585.	[1-k-d $\{\frac{0}{p}\}$ ]	VII(a)	'be united'	2.2.5; 2.10.3
586.	[1-k/x-d]	XIdr	'capture, seize, conquer'	2.7.1.
587.	[1-k/x-d $\{\frac{0}{p}\}$ ]	XII(ă)	'be trapped'	2.2.3
588.	[1-k-k]	Ia	'lick'	2.7.5; 2.10.1
589.	[1-k-t $\{\frac{0}{p}\}$ ]	I(a)	'be gathered together, be collected'	2.2.5
590.	[1-k-#]	I	'catch fire'	2.5.5
591.	[1-k-#]	XIdr	'take'	2.7.1; 2.7.8
592.	[1-m-d]	I and V(ă)	'learn, study'	2.6.2; 2.7.1; 2.10.3
593.	[1-n]	IX	'stay overnight'	2.10.3
594.	[1- }]	Ia	'knead'	2.7.1
595.	[1-t-f]	Ia	'caress'	2.10.2
595a.	[1-v-j/ə]	XIb and XIdr	'borrow (money)'	2.7.3; 2.7.8
596.	[1-x-m]	Va	'weld'	2.7.3
597.	[1-#-c $\{\frac{0}{p}\}$ ]	XII(ă)	'be pressed, squeezed'	2.2.3
598.	[1-#-c]	IVa	'coerce'	2.7.2
599.	[1-#-m]	VI	'fight with'	2.10.2
600.	[1-x- }	IVa and XIb	'shisper'	2.7.1; 2.10.2

m

601.	[m-2/ə-l]	IIa	'betray trust'	2.7.2
602.	[m-2/ə-s]	XI(ă)	'be fed up with'	2.5.1
603.	[m-c-?/ə]	Ia	'invent'	2.7.3
604.	[m-c-?/ə]	XII	'be present'	2.6.4
605.	[m-c-?/ə]	XIIa	'find'	2.7.1
606.	[m-c-c]	Ia	'suck'	2.7.1; 2.10.3
607.	[m-d-d]	Va	'measure, take measurements of'	2.7.1

608.	[m-d-d]	Ia	'try on, fit on'	2.7.1
609.	[m-h-l]{ <sup>o</sup> / <sub>r</sub> }	XII(a)	'be mixed with'	2.2.3
610.	[m-h-l]	Ia	'circumcize'	2.7.1
611.	[m-h-r]	XVII	'hurry, rush'	2.5.5
612.	[m-k-m]	XIIa	'localize (troops etc.)'	2.7.5; 2.10.1
613.	n(x)[m-k-r]		'be addicted to'	
614.	[m-k/x-r]	XIb	'sell'	2.7.1; 2.7.8
615.	[m-l-?/o]{ <sup>o</sup> / <sub>r</sub> }	VIII(a)	'be full, filled with'	2.2.5
616.	[m-l-x]{ <sup>o</sup> / <sub>r</sub> }	I(ă)	'reign, be a king'	2.3.1
617.	[m-l-#]{ <sup>o</sup> / <sub>r</sub> }	I(a)	'be salty'	2.3.1
618.	[m-n-?/o]	V(a)	'he prevented'	2.5.3; 2.10.3
619.	n(x)[m-n-?/o]		'abstain'	
620.	{ă}n(x)[m-r-d]{ <sup>o</sup> / <sub>r</sub> }		'rebel, revolt'	2.2.6
621.	[m-r-r/o]{ <sup>o</sup> / <sub>r</sub> }	I(ă)	'be bitter (of life etc.)'	2.3.1
622.	[m-r-t]{ <sup>o</sup> / <sub>r</sub> }	I(a)	'be ragged, tattered'	2.2.5
623.	[m-r-t]{ <sup>o</sup> / <sub>r</sub> }	XVI(a)	'pluck, pull (feathers, hair etc.)'	2.2.3
624.	[m-r-#]{ <sup>o</sup> / <sub>r</sub> }	VIII(a) and XV(a)	'be spread (butter), be smeared'	2.2.3; 2.10.1
625.	n(x)[m-s-r]{ <sup>o</sup> / <sub>Ac</sub> }		'devote oneself to'	2.8.1
626.	[m-s-r]	XIb	'hand down, over, transmit'	2.7.1; 2.10.1
627.	[m-{-}]	Ia	'feel (touch)'	2.7.5
628.	[m-{-x}]	I	'drag along'	2.5.5
629.	n(x)[m-{-x}]		'last, go on for (time)'	2.6.4
630.	[m-{-x}]	I(a)	'continue, go on'	2.5.1
631.	[m-{-x}]	Ia	'pull'	2.7.1
632.	[m-{-x}]	XIIIa	'draw (money from bank)'	2.7.1
633.	[m-{-x}]	XVII	'be attracted to'	

634.	[m-t <sup>{0}</sup> ]	V	'die'	2.4; 2.10.3
635.	[m-t-n <sup>{0}</sup> ]	I(a)	'be moderate, slow (tempo)'	2.2.5
636.	[m-x-j/ə]	IIa	'protest'	2.7.2
637.	[m- <del>x</del> -c <sup>{0}</sup> ]	V(a)	'be crushed'	2.2.3; 2.10.3
638.	[m- <del>x</del> -k <sup>{0}</sup> ]	V(a)	'be blotted, erased, rubbed out'	2.2.3
639.	n(r)[m-x-j/ə] (b)		'specialize'	2.5.5; 2.10.3
640.	[m-z-g]	XIVa	'pour (into glass etc)'	2.7.1

n

641.	[n-ʔ/ə]	I(a)	'move'	2.5.1
642.	[n-ʔ/ə-l]	Ia	'put on (shoes)'	2.7.1; 2.10.1
643.	[n-ʔ/ə-l <sup>{0}</sup> ]	I(a)	'be locked'	2.2.3
644.	[n-ʔ/ə-m]	I	'make a speech'	2.6.3
645.	[n-ʔ/ə-r]	I	'stir up'	2.5.5
646.	[n-ʔ/ə-r]	Ia	'stake, stir'	2.7.5; 2.10.1
647.	[n-ʔ/ə-r]	I	'bray'	2.6.3
648.	[n-b-ʔ/ə]	III	'foretell, predict'	2.6.2
649.	[n-b/v-ʔ/ə]	XIII	'issue from'	
650.	[n-b/v-l <sup>{0}</sup> ]	I	'be withered'	2.4
651.	[n-b/v-t]	XIII(ă)	'bud. sprout'	2.5.1
652.	[n-b/v- <del>x</del> ]	I	'bark'	2.6.3
653.	[n-c-c <sup>{0}</sup> ]	I	'be glittering, sparkling'	2.3.2
654.	a,g [n/ə-c-g] (x)		'introduce (someone to someone)'	2.7.3
655.	[n/ə-c-g]	XIIa	'present, display, put on (a play etc.) exhibit'	2.7.3
656.	[n-c-l]	III	'apologize'	2.6.2

657.	[n-c-l]	Ia	'exploit, make use of'	2.7.5
658.	[n/a-c-l]	XIII(ă)	'be saved, rescued'	2.5.1; 2.10.3
659.	[n-c-r]{ <sup>o</sup> / <sub>ſ</sub> }	I(ă)	'be a Christian, be a convert to Christianity'	2.2.5
660.	[n-c-r]	Ia	'lock (a rifle), put on the safety catch'	2.7.1
661.	[n/e-c-t]	I(ă)	'ignite, take fire'	2.5.1
662.	[n/e-c-v]	XIIa	'place, post station'	2.7.3
663.	[n-c-#]{ <sup>o</sup> / <sub>ſ</sub> }	I(ă)	'be eternal, perpetual'	2.3.1
664.	[n-c-#]{ <sup>o</sup> / <sub>Ac</sub> }	IIa	'conduct (orchestra)'	2.8.2
665.	[n-c-#]	XIIa	'defeat, win'	2.7.5
667.	[n-d-d]	XII	'roam, wander'	2.5.4
668.	[n-d-f]	I	'evaporate, vanish'	2.5.5
669.	[n-d-f]	XVI	'be emitted (smell)'	
670.	[n-d-r]	III	'vow'	2.6.2
671.	n(x)[n-d-v]		'volunteer'	2.10.1
672.	[n-d-v]	XIb	'donate'	2.7.5; 2.10.1
673.	[n/o-f/p-l]	XVI(ă)	'fall, drop'	2.5.1
674.	[n-f/p-#]{ <sup>o</sup> / <sub>ſ</sub> }	I(a)	'be inflated, blown up'	2.2.5
675.	[n-g-2/o]	IIa	'touch'	2.7.2
676.	[n-g-d]	IIa and III	'oppose, be against'	2.6.2
677.	[n-g-n]	III and Va	'play (music)'	2.6.2; 2.6.3
678.	[n-g-v]	Va	'wipe, dry'	2.7.5; 2.10.1
679.	[n-g-#]	Ia	'gore, butt'	2.7.1
680.	[n-h-l]	I(a)	'be conducted'	2.5.2
681.	[n-h-m]	I and III	'growl'	2.6.3
682.	[n-k-d]	Ia	'punctuate, point (a text)'	2.7.5
683.	[n-k-m]	IIa	'take revenge'	2.7.7

684.	[n/e-k-r]	Ia	'meet (get to know)'	2.7.3
685.	[n/e-k-r]	Ia	'identify, recognize, acknowledge'	2.7.3
686.	[n-k-r]	IIa	'deny recognition of, behave like a stranger towards'	2.7.7
687.	[n-k-r]	Ia	'peck'	2.7.5
688.	[n-k-t]	Ia	'take (measures, steps etc.), take up (a stand etc.)'	2.7.1
689.	[n-k-v { <sup>o</sup> / <sub>r</sub> }]		'be perforated'	2.2.5
690.	[n-k-j/e]	XIIIa	'deduct (bank etc.)'	2.7.5
691.	[n-k-j/e { <sup>o</sup> / <sub>r</sub> }]	I(a)	'be clean'	2.2.5; 2.10.1
692.	[n/o-k-j/e]	Ia	'beat up, hit'	2.7.3
693.	[n-k-z]	Ia	'drain (sanitation)'	2.7.5
694.	[n-m-x { <sup>o</sup> / <sub>r</sub> }]	I(ă)	'be low'	2.2.6
695.	[n-p-c { <sup>o</sup> / <sub>r</sub> }]	I(a)	'be shattered'	2.2.5
696.	[n-p-l]	XV	'attack, fall upon, assail'	2.5.5
697.	[n/e-p-l]	I	'miscarry'	2.5.5
698.	[n-p-# { <sup>o</sup> / <sub>r</sub> }]	I(a)	'be inflated, swollen, exaggerated'	2.2.5
699.	[n/e-s-2/e]	XII(ă)	'travel (by car, rail etc.)'	2.5.1; 2.10.3
700.	[n-s-r]	Va	'saw'	2.7.5
701.	[n-s-j/e]	Ia	'test'	2.7.5
702.	[n-s-j/e]	III	'try'	2.6.2
703.	[n-s-j/e { <sup>o</sup> / <sub>r</sub> }]	X	'be experienced, have experience in'	2.4.; 2.10.3
704.	[n-s-#]	Ia	'formulate, word, phrase, draft'	2.7.5
705.	[n-{-f}]	VIII	'exhale, blow'	2.6.2
706.	[n-{-f}]	I	'pant (breathe)'	2.5.5
707.	[n-{-k}]	Ia	'kiss'	2.10.2
708.	[n-{-l}]	XIIIa	'dislodge, dispossess'	2.7.5

709.	[n- $\int$ -m]	VIII	'breathe, inhale'	2.6.2
710.	[n- $\int$ -m]	I	'pant (breathe)'	2.5.5
711.	[n/o- $\int$ -r]	XVI	'fall off, moult, drop out'	2.5.1; 2.10.3
712.	[n- $\int$ -x]	Ia	'bite'	2.7.1
713.	[n/o-t- $\int$ /e]	XIIa	'plant'	2.7.1
714.	[n/o-t-f]	XIII(ă)	'drip, drop (liquid)'	2.5.1; 2.10.3
715.	[n-t-k $\{\frac{o}{\rho}\}$ ]	XVI(a)	'be cut off, severed'	2.2.5
716.	[n/o-t-n]	XIb	'give, hand over'	2.7.1; 2.7.8
717.	[n-t-r]	I	'leap, start off'	2.5.5
718.	[n/o-t-x]	V(ă)	'melt (metal)'	2.5.1; 2.10.3
719.	[n/o-t-j/o $\{\frac{o}{\rho}\}$ ]	XVII(a)	'be turned aside, diverted'	2.5.1
720.	[n-t-j/o]	III	'tend to'	2.6.2
721.	[n/o-t-z]	XIII(ă)	'sprinkle'	2.5.1; 2.10.3
722.	[n-x-j/o]	XVIIa	'guide, lead'	2.1.3
723.	[n-x]	I	'rest'	
724.	[n-x]	XVa	'place, set, lay down'	2.7.3
725.	[n-x]	III	'assume, suppose'	2.6.2
726.	[n-x-l]	XII	'settle'	2.5.5
727.	[n-x-l]	XIdr	'get, receive'	2.7.1; 2.7.3; 2.7.8
728.	[n-x-m $\{\frac{o}{\rho}\}$ ]	V(ă)	'be consoled'	2.2.5; 2.10.3
729.	[n-x-r]	I	'snore'	2.6.2
730.	[n-x- $\int$ ]	Ia	'guess'	2.7.5
731.	[n-x-t]	XII(ă)	'land (troops)'	2.5.1
732.	[n-z-f]	IVa	'rebuke'	2.7.2
733.	[n/o-z-l]	XIII(ă)	'flow, drop (liquid)'	2.5.1; 2.10.3
734.	[n-z-r]	XVI	'abstain from'	

p

735.	[p-?/ə-r]	III	'brag, boast'	2.6.2
736.	[p-l-c]	I	'be stunned'	2.5.5
737.	[p-l-l]	III	'pray'	2.6.2
738.	[p-r-ʔ/ə <sup>{o}</sup> <sub>{Ac}</sub> ]	I	'be unruly, wild'	2.8.1
739.	[p-r-c <sup>{o}</sup> <sub>{Ac}</sub> ]	I	'be unrestrained, bursting'	2.8.1
740.	[p-r-c]	XIV	'burst, break into'	2.5.5

r

741.	[r-ʔ-j/ə <sup>{o}</sup> <sub>{Ac}</sub> ]	VIII	'be a shepherd'	2.8.2
742.	{ǎ}a, g[r-ʔ/ə-j/ə]	III(ǎ)	'see'	2.6.2
742a.	[r-ʔ/ə-j/ə]	III(ǎ)	'see, realize'	2.6.2
743.	[r-ʔ/ə-j/ə]	VI	'see one another'	2.10.2
744.	[r-ʔ/ə]	IIa	'cheer (shout)'	2.6.3
745.	[r-ʔ/ə-d]	I(a)	'tremble, shake'	2.5.1
746.	[r-ʔ/ə-m]	I	'thunder, roar'	2.6.3
747.	n(x)[r-ʔ/ə-m]		'get angry'	2.5.5
748.	[r-ʔ/ə- <sup>{o}</sup> <sub>{r}</sub> ]	I	'be noisy'	2.3.2
749.	[r-ʔ/ə-]	Ia	'bomb, shell'	2.7.3
750.	[r-ʔ/ə-v <sup>{o}</sup> <sub>{r}</sub> ]	I(ǎ)	'be hungry'	2.3.1
751.	[r-b-j/ə]	I(ǎ)	'multiply'	2.5.2
752.	[r-b-j/ə <sup>{o}</sup> <sub>{r}</sub> ]	I(ǎ)	'be increased, be in great quantity'	2.2.5
753.	[r-b-c]	IIa	'smack'	2.7.4
754.	[r-b/v-c <sup>{o}</sup> <sub>{r}</sub> ]	I	'crouch, lie'	2.3.1
755.	[r-c]	I(ǎ)	'run'	2.5.1
756.	[r-c-c]	I	'run to and fro'	2.5.5
757.	[r-c-f]	Ia	'pave'	2.7.5
758.	[r-c-ʔ]	Ia	'murder'	2.7.1
759.	[r-c-j/ə]	III	'want, wish'	2.6.2



760.	n(ɔb) <sub>(d)</sub> [r-c-j/ɔ]		'lecture'	2.7.4
761.	n,x[r-d-f]		'chase, pursue, run after'	2.5.4
762.	[r-d-m]	V(ǎ)	'fall asleep'	2.2.2; 2.10.3
763.	[r-f-f <sup>{o}</sup> ]	I(a)	'be loose'	2.2.5
764.	[r-g-2/ɔ <sup>{o}</sup> ]	V(ǎ)	'relaxed, calm'	2.2.2; 2.10.3
765.	{ǎ}n(x)[r-g-l <sup>{o}</sup> ]		'be used to, accustomed to'	2.2.6
766.	[r-g-l <sup>{o}</sup> ] <sub>Ac</sub>	I	'be a spy'	2.8.2
767.	[v-g-]	Ia	'feel'	2.7.3
768.	[r-g- <sup>{o}</sup> ]	V(ǎ)	'be excited'	2.2.5; 2.10.3
769.	[r-g-z <sup>{o}</sup> ]	V(ǎ)	'be angry'	2.2.6; 2.10.3
770.	[r-k-2/ɔ <sup>{o}</sup> ]	I(a)	'hammered out, flattened'	2.2.5
771.	n(x)[r-k-2/ɔ]		'stamp (with foot)'	
772.	[r-k-d]	III(ǎ)	'dance'	2.5.1
773.	[r-k-m]	Ia	'embroider'	2.7.1
774.	[r-k/x-]	XI <sub>dr</sub>	'purchase, acquire'	2.7.1
775.	[r-k-v <sup>{o}</sup> ]	I(ǎ)	'be rotten'	2.2.2
776.	[r-k-v <sup>{o}</sup> ]	VI(a)	'be compounded'	2.2.6; 2.10.2
777.	[r-k/x-v]	XV(a)	'ride'	2.5.1
778.	[r-k-z <sup>{o}</sup> ]	XII(a)	'be concentrated'	2.2.5
779.	[r-k-z]	IIa	'concentrate (in one's studies, etc.)'	2.7.7
780.	[r-m-m/ɔ]	XVI(a)	'rise'	2.5.1
781.	[r-m-m <sup>{o}</sup> ]	V(ǎ)	'be boosted, exalted'	2.2.5; 2.10.3
782.	[r-m-s]	Ia	'trample'	2.7.1
783.	[r-m-z]		'hint, give a clue'	2.7.1

784.	$\{\check{a}\}_n(p)_{(c)}[r-p-?/ə]$		'recover, be cured'	2.5.2; 2.10.3
785.	$[r-p-d]$	VIIIa	'pad'	2.7.5
786.	$[r-p-k]$	IIa	'nestle against'	2.7.7
787.	$[r-p-t]_{\{\check{r}\}}^{\{\check{o}\}}$	I( $\check{a}$ )	'be tattered'	2.2.5
788.	$[r-s-k]_{\{\check{r}\}}^{\{\check{o}\}}$	I(a)	'be shattered'	2.2.5
789.	$[r-s-n]_{\{\check{r}\}}^{\{\check{o}\}}$	V( $\check{a}$ )	'be restrained'	2.2.5; 2.10.3
790.	$[r-s-s]$	VIIIa	'spray'	2.7.5
791.	$[r-]_{-l}^{\{\check{o}\}}_{(Ac)}]$	X	'be sloven'	2.8.1
792.	$[r-]_{-m}$	XIIa	'write down, register'	2.7.1
793.	$[r-]_{-m}$	V( $\check{a}$ )	'be impressed by'	2.10.3
794.	$[r-]_{-}^{\{\check{o}\}}_{\{\check{r}\}}$	I( $\check{a}$ )	'be impoverished'	2.2.5
795.	$[r-]_{-j/ə}$		'give permission, permit, allow'	2.7.3
796.	$[r-t-2/ə]$	V( $\check{a}$ )	'shrink'	2.5.1; 2.10.3
797.	$[r-t-k]_{\{\check{r}\}}^{\{\check{o}\}}$	XVII(a)	'be confined to'	2.2.5
798.	$[r-t-m]$	XVII( $\check{a}$ ) and XVIIa	'harness'	2.2.3; 2.7.1
799.	$[r-t-n]$	III	'grumble'	2.6.3
800.	$[r-t-v]_{\{\check{r}\}}^{\{\check{o}\}}$	V(a)	'be wet'	2.2.6; 2.10.3
801.	$[r-t-x]_{\{\check{r}\}}^{\{\check{o}\}}$	V( $\check{a}$ )	'be welded, soldered'	2.2.5
802.	$[r-t-]_{\{\check{r}\}}^{\{\check{o}\}}$	I( $\check{a}$ )	'be boiling'	2.3.1
803.	$[r-t-]$	V( $\check{a}$ )	'be enraged'	2.5.2; 2.10.3
804.	$[r-v]$	VI	'quarrel with'	2.10.2
805.	$[r-]$	Ia	'smell, sniff'	2.7.3
806.	$[r-]_{-c}$	Ia	'wash'	2.7.1; 2.10.1
807.	$[r-]_{-f}$	XII	'hover, flutter'	2.5.5
808.	$[r-]_{-k}^{\{\check{o}\}}_{\{\check{r}\}}$	XVI(a)	'be far, distant'	2.2.6
809.	$n, x[r-]_{-m}$		'feel sorry for'	2.6.1
810.	$[r-]_{-}$	XII	'happen'	2.6.4

811.	[r- <del>x</del> -v <sup>{0}</sup> ]	I(a)	'be wide'	2.2.6
812.	[r-z-j/e <sup>{0}</sup> ]	I(ä)	'be slim'	2.2.4
<b>is</b>				
813.	[s-2/e-f <sup>{0}</sup> ]	I(a)	'be ramified, branched out'	2.2.5
814.	[s-2/e-r]	XV	'(storm (military))'	2.5.5
815.	[s-2/e-r <sup>{0}</sup> ]	V(ä)	'storm, rage (mood), storm (sea)'	2.2.2; 2.5.1; 2.10.3
816.	[s-b/v-2/e <sup>{0}</sup> ]	V(ä)	'full, satisfied (food)'	2.3.1; 2.10.3
817.	n(x)[s-b/v-l]		'suffer of'	
818.	[s-b/v-l]	III	'endure, suffer'	2.6.1; 2.6.2
819.	[s-b/v-l]	III	'bear'	2.6.1
820.	[s-b-n]	Ia	'soap'	2.7.5; 2.10.1
821.	[s-b-r]	XIb	'explain'	2.7.3
822.	[s-b-x]	VI(a)	'become involved with, entangled with'	2.5.2; 2.10.2
823.	[s-b-x <sup>{0}</sup> ]	I(a)	'be complicated, intricate'	2.2.5
824.	[s-d-d]	Va	'harrow (field)'	2.7.5
825.	[s-d-d]	VI	'whisper secrets'	2.6.2; 2.10.2
826.	{a}n(x)[s-d-r <sup>{0}</sup> ]		'form (a line)'	2.2.5
827.	[s-d-r]	Ia	'"fix", "frame" someone'	2.7.5
828.	[s-d-r]	Ia	'arrange'	2.7.5
829.	[s-d-r <sup>{0}</sup> ]	I(ä)	'settle satisfactorily'	2.2.6; 2.10.3
830.	[s-d-r <sup>{0}</sup> ]	I(a)	'be arranged, set in order'	2.2.5
831.	[s-d-r]	VI	'get along (nicely with)'	2.10.2
832.	[s-f/p-g <sup>{0}</sup> ]	XII	'be soaked'	2.2.3

833.	[s-f/p-r]	Ia	'count'	2.7.1
834.	[s-g-d]	IIa	'worship'	2.7.2
835.	n(x)[s-g-l]		'become adapted, fitted'	2.5.5
836.	[s-g-r <sup>{0}</sup> ]	I(a)	'close, shut'	2.2.3
837.	[s-g-r]	XII	'lock oneself in'	2.10.1
838.	[s-g-r]	XIb	'extradite'	2.7.3
839.	a,g <sub>(x)</sub> [s-k-l]		'stone'	2.7.1
840.	[s-k-l]	Ia and XVIa	'remove stones'	2.7.5
841.	[s-k-l]	IIa	'stare at, watch'	2.7.7
842.	n(x)[s-k-m]		'add up to'	2.10.3
843.	[s-k-m]	Ia	'sum up'	2.7.5
844.	[s-k-m]	Ia	'agree'	2.7.3
845.	n,n'(f)[s-k-m]		'conclude, agree about'	2.6.2; 2.10.2
846.	[s-k-r]	X(a)	'take risk'	2.10.1
847.	[s-k-r]	Ia	'scan, review (troops etc.)'	2.7.1
848.	n(b) <sub>f</sub> [s-k-r]		'earn, be paid (wages)'	2.10.3
849.	[s-k/x-r]	XIb and XIb <sub>r</sub>	'rent'	2.7.1; 2.7.8
850.	[s-l-f <sup>{0}</sup> ]	I(a)	'be distorted'	2.2.5
851.	[s-l-k]	XIIIa	'send away'	2.7.5; 2.10.1
852.	[s-l-k]	XIIIa	'pinch, steal'	2.7.5
853.	[s-l-l]	Ia	'pave, compress (road)'	2.7.1
854.	[s-l-#]	IIa	'forgive'	2.7.1
855.	[s-m]	XVa	'put, lay'	2.7.1
856.	[s-m-k <sup>{0}</sup> ]	I	'blush'	2.4
857.	[s-m-l]	VIII	'be symbolized'	2.10.3
858.	[s-m-n]	VIII	'be marked'	2.10.3
859.	[s-m-x]	IV	'rely on'	2.7.2

860.	a,g [s-m-x] (x)		'ordain'	2.7.3
861.	[s-m-x]	IIa	'base oneself on, refer to'	2.7.6
862.	[s-m- <del>x</del> ]	V(ă)	'be glad, happy'	2.6.1; 2.10.3
863.	[s-n-?/ə]	III	'hate (that)'	2.6.2
864.	[s-n-?/ə]	III(ă)	'hate'	2.6.1; 2.10.3
865.	[s-n-f { <sup>o</sup> / <sub>ɪ</sub> }]	XVII(a)	'be annexed, affiliated to'	2.2.5
866.	[s-n-n]	XIV	'infiltrate'	2.5.5
867.	[s-n-n { <sup>o</sup> / <sub>ɪ</sub> }]	I(a)	'be filtered'	2.2.5
868.	[s-p-k]	III	'manage to ...'	2.6.2
869.	[s-p-k]	XIb	'supply'	2.7.5
870.	[s-p-k]	IX	'get satisfaction (sexual etc.)'	2.10.3
871.	n(x)[s-p-k]		'content oneself with'	2.10.3
872.	[s-p-r]	XIb	'tell, relate, recount'	2.7.5; 2.7.8
873.	[s-p-r]	Ia and IX	'have haircut'	2.7.5
874.	[s-p- <del>x</del> { <sup>o</sup> / <sub>ɪ</sub> }]	XVII(a)	'be annexed, coopted, affiliated'	2.2.5
875.	[s-r- <del>z</del> /ə { <sup>o</sup> / <sub>ɪ</sub> }]	XV	'be stretched out'	2.4
876.	[s-r-f { <sup>o</sup> / <sub>ɪ</sub> }]	V(ă)	'be burnt'	2.2.3
877.	[s-r-g]	Ia	'knit'	2.7.1
878.	[s-r-k]	Ia	'comb (area)'	2.7.1
879.	[s-r-k]	Va and IX	'comb (hair)'	2.7.5; 2.10.1; 2.10.3
880.	[s-r-s { <sup>o</sup> / <sub>ɪ</sub> }]	I(a)	'be castrated, distorted'	2.2.5
881.	[s-r-t { <sup>o</sup> / <sub>ɪ</sub> }]	V(ă)	'be incised, scratched'	2.2.3
882.	[s-r-v]	III	'refuse'	2.6.2
883.	[s-r- <del>x</del> { <sup>o</sup> / <sub>ɪ</sub> }]	V(ă)	'be stinking'	2.3.1
884.	[s-t-m { <sup>o</sup> / <sub>ɪ</sub> }]	VIII(a)	'be stopped up, clogged'	2.2.3

885.	[s-t-t]	Va	'chisel, cut (stones)'	2.7.5
886.	[s-t-j/ø]	XVI	'deviate, digress, turn aside'	2.5.4
887.	[s-v/j/ø-g]	I	'retreat'	2.5.4
888.	{a}n,x[s-v-g]{ <sup>ø</sup> }		'be classified, categorized'	2.2.5
889.	[s-v/j/ø-g]	Ia	'encroach'	2.7.3
890.	[s-v-r]	III	'be in the opinion that'	2.6.2
891.	[s-v/j/ø-r]	XVIa	'remove, take off'	2.7.3
892.	[s-v-v]{ <sup>ø</sup> }	I(a)	'be turned aside, around'	2.2.5
893.	[s-v-v]	XII	'walk about'	2.5.5; 2.10.2
894.	[s-v-v]	VI	'hang about with'	2.5.5
895.	[s- <del>x</del> -f]{ <sup>ø</sup> }	XII(ă)	'be swept (washed) away'	2.2.3; 2.10.3
896.	n(f)[s- <del>x</del> -k] in		'act, play (theatre etc.)'	2.6.2; 2.6.4
897.	n(n')[s- <del>x</del> -k]		'play'	2.6.2
898.	[s- <del>x</del> -t]	XIdr	'extort (money by blackmail)'	2.7.1
899.	[s- <del>x</del> -t]{ <sup>ø</sup> }]	VIII(a) and XIII(a)	'be squeezed, wrung out'	2.2.3
900.	[s- <del>x</del> -v]	I(a)	'drag on'	2.5.3
901.	[s- <del>x</del> -v]	XIdr	'pinch (steal)'	2.7.1
902.	{a}n(x)[s- <del>x</del> -v]		'be dragged after'	2.5.3; 2.10.3
903.	[s- <del>x</del> -j/ø]	XII	'swim'	2.5.4
904.	[s-j- <del>z</del> /ø]	IX	'be assisted by'	2.10.3
905.	[s-j-d]	Ia	'white wash'	2.7.5
906.	[s-j-f]	VI	'fence (sport)'	2.10.2
907.	[s-j-g]	XVI	'have reservations about, dissociate oneself from'	
908.	[s-j-m]	I(a)	'conclude, terminate, finish'	2.5.2

909.	[s-j-r]	XII	'reconnoitre, tour'	2.5.5
}				
910.	[{-ʔ/o-f}]	Ia	'take breath, inhale'	2.7.1
911.	[{-ʔ/o-f}]	III	'aspire at, have ambition to'	2.6.2
912.	[{-ʔ/-g}]	I and III	'roar (lion)'	2.6.3
913.	[{-ʔ/o-l}]	XIb and XIIdr	'lend, loan'	2.7.3; 2.7.8
914.	[{-ʔ/o-l}]	IIIa	'ask'	2.7.1
915.	[{-ʔ/o-l}]	I	'cough'	2.6.3
916.	[{-ʔ/o-n}{ <sup>o</sup> }]	XV(a)	'lean'	2.2.2
917.	[{-ʔ/o-r}]	XII(a)	'be left over'	2.5.1
918.	n(x)[-ʔ/o-r]		'remain'	2.6.4
919.	[{-b/v-ʔ/o}]	III(ă)	'swear'	2.6.2
920.	[{-b-c}{ <sup>o</sup> }]	XII(a)	'be inlaid'	2.2.5
921.	[{-b-r}]	XII	'be reflected (light)'	2.5.5
922.	{a}n(x)[-b/v-r]{ <sup>o</sup> }]		'be broken'	2.2.3
923.	[{-b/v-t}]	I(ă)	'be idle, be on strike'	2.5.1
924.	[{-b-ʔ}{ <sup>o</sup> }]	I(a)	'be of high quality'	2.2.6
925.	[{-b-ʔ}]	Ia	'praise'	2.7.5
926.	[{-b/v-j/o}]	Ia	'take prisoner, capture (war)'	2.7.1
927.	[{-d-d}]	Ia and XIIdr	'rob'	2.7.1
928.	[{-d-l}]	III	'endeavour'	2.6.2
929.	[{-d-l}]	IIIa	'try to persuade, solicit'	2.7.5
930.	[{-d-r}]	XIb	'broadcast, transmit'	2.7.5
931.	a,g [-f/p-t] (x)		'judge'	2.7.1
932.	[{-f/p-x}{ <sup>o</sup> }]	XIII(a)	'be spilled, shed'	2.2.3

933.	$[-h-j/\phi \{ \overset{\circ}{\underset{\sim}{r}} \}]$	XII	'stay'	2.2.6; 2.6.4
934.	$[-k-2/\phi \{ \overset{\circ}{\underset{\sim}{r}} \}]$	XII(ă)	'sunk, submerged'	2.2.2
935.	$[-k-2/\phi]$	XIIa	'invest (money)'	2.7.3
936.	$[-k-2/\phi]$	XII	'settle (permanently)'	2.5.5
937.	$[-k-f]$	IIa	'reflect'	2.7.5
938.	$[-k-f]$	XII	'be reflected in'	2.7.4; 2.10.3
939.	$[-k-l]$	Ia and IX	'weigh'	2.7.1; 2.10.3
940.	$[-k-m]$	Ia	'rehabilitate, reconstruct'	2.7.5
941.	$[-k-n \{ \overset{\circ}{\underset{\sim}{r}} \}]$	XII(ă)	'settle in, move (to live) into'	2.2.5
942.	$[-k-r \{ \overset{\circ}{\underset{\sim}{r}} \}]$	V(ă)	'be drunk'	2.2.5; 2.10.3
943.	$[-k-r]$	IV	'lie (tell a lll.)'	2.6.2
944.	$[-k-t \{ \overset{\circ}{\underset{\sim}{r}} \}]$	V(ă)	'be quiet, calm'	2.3.1; 2.10.3
945.	$[-k/x-v \{ \overset{\circ}{\underset{\sim}{r}} \}]$	XV(a)	'lie (body position)'	2.2.2; 2.3.1
946.	$[-k-j/\phi]$	Ia	'water, irrigate'	2.7.3
947.	$[-l-f \{ \overset{\circ}{\underset{\sim}{r}} \}]$	XIII(a)	'be drawn out (sword etc.)'	2.2.3
948.	$[-l-l]$	Ia	'negate,	2.7.1; 2.7.8
949.	$[-l-l \{ \overset{\circ}{\underset{\sim}{r}} \}_{AC}]$	I	'go wild'	2.8.1
950.	$[-l-l]$	XIdr	'be denied, derived (privileges, etc.)'	2.7.1 2.7.8
951.	$n(b) \{ \overset{\circ}{\underset{\sim}{r}} \} [-l-m]$		'qualify, specialize in'	2.5.1; 2.10.3
952.	$[-l-m \{ \overset{\circ}{\underset{\sim}{r}} \}]$	X	'be accomplished, perfected'	2.4
953.	$\{a\} n(x) [-l-m]$		'be completed'	2.5.1
954.	$[-l-m]$	XI	'"pay", be worth while'	
955.	$[-l-m]$	XIb	'pay'	2.7.5
956.	$\{a\} n(x) [-l-t \{ \overset{\circ}{\underset{\sim}{r}} \}]$		'have under control'	2.2.6



957.	[ $\int$ -l-t]	XV	'dominate, command'	2.7.2
958.	[ $\int$ -l-v $\left\{\begin{smallmatrix} \textcircled{0} \\ \textcircled{1} \end{smallmatrix}\right\}$ ]	XII(a)	'be joined, fitted together, integrated'	2.2.5
959.	[ $\int$ -l- <del>u</del> ]	XVIIa	'send'	2.7.1; 2.7.8
960.	[ $\int$ -m- $\textcircled{2}$ /o]	III	'hear (rumour etc.)'	2.6.2
961.	n(d)[ $\int$ -m- $\textcircled{2}$ /o]		'hear of, learn indirectly about'	
962.	{ $\check{a}$ } a, g [ $\int$ -m- $\textcircled{2}$ /o]	and III( $\check{a}$ )	'hear'	2.6.2; 2.7.8
963.	[ $\int$ -m- $\textcircled{2}$ /o]	III		2.6.2
964.	[ $\int$ -m-c]	Ia	'slander, libel'	2.7.3
965.	[ $\int$ -m-d]	I(a)	'be annihilated'	2.5.1
966.	[ $\int$ -m-n $\left\{\begin{smallmatrix} \textcircled{0} \\ \textcircled{1} \end{smallmatrix}\right\}$ ]	I( $\check{a}$ )	'be fat'	2.2.4
967.	[ $\int$ -m-n $\left\{\begin{smallmatrix} \textcircled{0} \\ \textcircled{1} \end{smallmatrix}\right\}$ ]	I(a)	'be oiled, greased'	2.2.5
968.	[ $\int$ -m-r $\left\{\begin{smallmatrix} \textcircled{0} \\ \textcircled{1} \end{smallmatrix}\right\}$ ]	XII( $\check{a}$ )	'be preserved'	2.2.5; 2.10.3
969.	[ $\int$ -m-r]	XIIa	'conserve'	2.7.5; 2.10.3
970.	[ $\int$ -m-r $\left\{\begin{smallmatrix} \textcircled{0} \\ \textcircled{1} \end{smallmatrix}\right\}$ ]	I	'be a watchman'	2.8.2
971.	[ $\int$ -m-r]	Ia	'guard, protect'	2.7.1
972.	[ $\int$ -m-r]	IIa	'take good care of'	2.7.2
973.	[ $\int$ -m- $\left\{\begin{smallmatrix} \textcircled{0} \\ \textcircled{1} \end{smallmatrix}\right\}$ ]	IIa	'use, make use of, put to use'	2.7.7
974.	[ $\int$ -n-n]	Ia	'study, try to memorize'	2.7.5
975.	[ $\int$ -n-n $\left\{\begin{smallmatrix} \textcircled{0} \\ \textcircled{1} \end{smallmatrix}\right\}$ ]	I(a)	'have cogs'	2.2.5
976.	[ $\int$ -n-j/o $\left\{\begin{smallmatrix} \textcircled{0} \\ \textcircled{1} \end{smallmatrix}\right\}$ ]	V(a)	'be different'	2.2.5; 2.10.3
977.	[ $\int$ -n-j/o]	I	'recur'	2.5.4
978.	[ $\int$ -p- $\textcircled{2}$ /o]	IIIa	'influence'	2.7.3
979.	[ $\int$ -p-c]	Ia	'repair, renovate'	2.7.5
980.	[ $\int$ -p-l]	Ia	'humiliate, degrade'	2.7.3
981.	[ $\int$ -p-r $\left\{\begin{smallmatrix} \textcircled{0} \\ \textcircled{1} \end{smallmatrix}\right\}$ ]	V(a)	'be improved'	2.2.5; 2.10.3

982.	$n(x)[\int -p-x \left\{ \begin{smallmatrix} \circ \\ \text{Ac} \end{smallmatrix} \right\}]$		'be one who pours out his soul'	2.8.1
983.	$[\int -r]$	III	'sing'	2.6.3
984.	$n(x)[\int -r-k]$		'whistle'	2.6.3
985.	$[\int -r-t]$	XII	'serve (army etc.)'	2.6.4
986.	$[\int -r-t]$	Ia	'serve someone'	2.7.4
987.	$[\int -t-f \left\{ \begin{smallmatrix} \circ \\ \text{f} \end{smallmatrix} \right\}]$	V(a)	'be washed (dishes etc.)'	2.2.3
988.	$[\int -t-f]$	XII	'be washed away'	
989.	$[\int -t-f]$	XII(ă)	'take part in, participate'	2.6.4
990.	$[\int -t-k \left\{ \begin{smallmatrix} \circ \\ \text{f} \end{smallmatrix} \right\}]$	I(ă)	'be paralysed'	2.2.5
991.	$[\int -t-k \left\{ \begin{smallmatrix} \circ \\ \text{f} \end{smallmatrix} \right\}]$	I(ă)	'keep silent'	2.2.6
992.	$[\int -t-k]$	Ia	'hush (cover) up'	2.7.3
993.	$[\int -t-l \left\{ \begin{smallmatrix} \circ \\ \text{f} \end{smallmatrix} \right\}]$	XII(a)	'be planted'	2.2.3
994.	$[\int -t-\# \left\{ \begin{smallmatrix} \circ \\ \text{f} \end{smallmatrix} \right\}]$	I(a)	'be flat'	2.2.5
995.	$[\int -t-\#]$	XV	'fall flat, stretch oneself'	2.5.5
996.	$[\int -t-j/\circ]$	Ia	'drink'	2.7.1
997.	$[\int -v]$	XVII(a)	'come back'	2.5.1
998.	$[\int -v-c]$	I	'have a heart attack'	2.5.5
999.	$[\int -v-j/\circ \left\{ \begin{smallmatrix} \circ \\ \text{f} \end{smallmatrix} \right\}]$	VII(a)	'be equal, be on a par'	2.2.6; 2.10.2
1000.	$n, n'(x)[\int -v-j/\circ]$		'reach a compromise'	2.5.5; 2.10.2
1001.	$[\int -v-j/\circ]$	VIIa	'compare'	2.7.3
1002.	$\left\{ \begin{smallmatrix} \text{ă} \\ \text{c} \end{smallmatrix} \right\} a, g [\int -x-\#]$	III(ă)	'forget'	2.6.2; 2.10.3
1003.	$[\int -x-r \left\{ \begin{smallmatrix} \circ \\ \text{f} \end{smallmatrix} \right\}]$	V(a)	'be black'	2.2.4
1004.	$[\int -\#-c \left\{ \begin{smallmatrix} \circ \\ \text{Ac} \end{smallmatrix} \right\}]$	I	'be conceited'	2.8.1
1005.	$[\int -\#-d]$	IIIa	'bribe'	2.7.5
1006.	$[\int -\#-k \left\{ \begin{smallmatrix} \circ \\ \text{f} \end{smallmatrix} \right\}]$	I(a)	'be worn, tattered'	2.2.3
1007.	$[\int -\#-l \left\{ \begin{smallmatrix} \circ \\ \text{f} \end{smallmatrix} \right\}]$	XII(a)	'be threaded, passed through'	2.2.6
1008.	$[\int -\#-t]$	Va	'slaughter'	2.7.1

1009.	n(ge)[{-j-x}]		'belong to'	2.6.4
1010.	a,g (ge) [-j-x]		'attribute'	2.7.5
1011.	[-z-f { <sup>o</sup> / <sub>r</sub> }]	V(ă)	'tanned, sun-burnt'	2.2.5; 2.10.3
<u>t</u>				
1012.	[t-2/o-m]	III	'taste'	2.6.2
1013.	[t-2/o-m]	VIIa	'coordinate'	2.7.5
1014.	[t-2/o-m]	XIV(a)	'fit, suit'	2.3.1
1015.	[t-2/o-m]	XIV	'suit'	
1016.	[t-2/o-n]	VIIIIa and XIIa	'load (truck etc.)'	2.7.3
1017.	[t-2/o-n { <sup>o</sup> / <sub>r</sub> }]	VIIII(a) and XII(a)	'be loaded (gun)'	2.2.3
1018.	[t-2/o-n]	III	'argue'	2.6.2
1019.	[t-2/o-r]	Ia	'describe'	2.7.5
1020.	[t-2/o-j/o]	III(ă) and X(ă)	'make a mistake, err'	2.6.2; 2.10.3
1021.	[t-b/v-2/o]	Ia	'sue'	2.7.1
1022.	[t-b/v-2/o { <sup>o</sup> / <sub>r</sub> }]	XII(ă)	'be drowned'	2.2.2
1023.	[t-b/v-2/o]	XIdr	'claim, demand'	2.7.1
1024.	[t-b/v-l]	XIIa	'dip'	2.7.1
1025.	[t-b-l]	Ia	'baptize'	2.7.3
1026.	n(x)[t-f-f]		'beat (drum)'	2.6.3
1027.	[t-f-r]	Ia	'sew'	2.7.1
1028.	[t-f/p-s { <sup>o</sup> / <sub>r</sub> }]	XII(a)	'be caught, grasped, comprehended'	2.2.3; 2.10.3
1029.	[t-h-r { <sup>o</sup> / <sub>r</sub> }]	VIIII(a)	'be pure'	2.2.5
1030.	[t-k-2/o { <sup>o</sup> / <sub>r</sub> }]	XII(a)	'be stuck in'	2.2.3
1031.	[t-k-f]	VIIII	'have an attack (illness)'	2.5.4; 2.10.3
1032.	[t-k-f]	Ia	'attack'	2.7.3
1032a.	n,x[t-k-l]		'bump into'	2.5.4

1033.	[t-k-n]	XIIa	'instal'	2.7.3
1034.	[t-k-n]	Ia	'mend, repair'	2.7.5
1035.	[t-l]	Ia	'throw javelin'	2.7.3
1036.	[t-l]	Ia	'lay (eggs)'	2.7.3
1037.	[t-l]	XVa	'impose (taxes)'	2.7.3
1038.	[t-l- $\left\{ \begin{smallmatrix} \textcircled{\text{O}} \\ \text{A} \end{smallmatrix} \right\}]$	XVI(a)	'be plucked, torn out'	2.2.3
1039.	[t-l-j/ $\left\{ \begin{smallmatrix} \textcircled{\text{O}} \\ \text{A} \end{smallmatrix} \right\}]$	XV(a)	'be hung, suspended'	2.2.3
1040.	[t-l-j/o]	Ia	'hang (penalty)'	2.7.1
1041.	[t-m-d]	X	'keep on, persevere'	
1042.	[t-m-m]	I	'play the innocent'	2.8.1
1043.	n(x)[t-m-x]	IIa	'support one's body'	2.10.3
1044.	[t-m-x]	Ia	'support, maintain'	2.7.1
1045.	[t-n-f $\left\{ \begin{smallmatrix} \textcircled{\text{O}} \\ \text{A} \end{smallmatrix} \right\}]$	VIII(a)	'be filthy'	2.2.5
1046.	[t-p-s]	XV	'climb (up)'	2.5.5
1047.	[t-r]	XII	'tour'	2.5.4
1048.	[t-r]	Ia	'unfasten, untie'	2.7.3
1049.	[t-r- $\text{z}/\text{o}$ ]	IIa and III	'protest against'	2.6.2
1050.	[t-r-d]	Va	'bother, pester, harass'	2.7.3
1051.	[t-r-f $\left\{ \begin{smallmatrix} \textcircled{\text{O}} \\ \text{A} \end{smallmatrix} \right\}]$	I(ă)	'be non-kosher'	2.3.1
1052.	[t-r-f]	Ia	'kill and eat (animal), devour'	2.7.1
1053.	[t-r-k]	I(a)	'slam (door)'	2.5.3
1054.	[t-r-m]	XIb	'contribute, donate'	2.7.1
1055.	[t-r-j/ $\text{a}$ ]	IV	'warn'	2.6.2
1056.	[t-s]	I(ă)	'fly (aeroplane etc.)'	2.5.1
1057.	[t-s-s $\left\{ \begin{smallmatrix} \textcircled{\text{O}} \\ \text{A} \end{smallmatrix} \right\}]$	I(ă)	'ferment'	2.3.1
1058.	[t-v- $\text{z}$ ]	Ia	'range'	2.7.5
1059.	[t-j-k]	XIIa	'file (papers etc.)'	2.7.5
1060.	[t-j-l]	I	'go on a trip, stroll'	2.5.5

## v

1061.	[v/j/a- $\text{?}/\text{o-l}$ $\left\{ \begin{smallmatrix} \textcircled{\text{O}} \\ \text{A} \end{smallmatrix} \right\}]$	XI	'be of use to'	2.3.2
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1062.	[v-ʔ/e-d]	VI	'convene'	2.10.2
1063.	{a}n(x)[v/j/e-ʔ/e-d]		'be designed for'	
1064.	[v/j/e-c-ʔ/o]	XIII(a)	'come out'	2.5.1
1065.	[v/j/e-c-r]	V(a)	'be created, produced'	2.5.3; 2.10.3
1066.	[v-d-ʔ/o]	Ia	'verify, authenticate'	2.7.5
1067.	[v/j/e-d-ʔ/o]	III	'know how to'	2.6.2; 2.10.2
1068.	n(x)[v/j/e-d-ʔ/e <sup>{o}</sup> <sub>ʔ</sub> ]	IX	'know'	2.2.2; 2.10.3
1069.	[v-d-ʔ/o]	XVII	'acquaint oneself to'	2.5.5
1070.	[v-d-l]	VI	'distinguish'	2.7.3
1071.	[v-d-j/o]	III	'confess'	2.6.2
1072.	[v/j/e-d-j/o]	III	'admit'	2.6.2
1073.	a, ob (x) [v/j/e-d-j/o]		'thank'	2.7.4
1074.	[v-k-ʔ/o]	Ia	'thrust through (enemy's post)'	2.7.3
1075.	n, n' (x) [v-k-ʔ]		'argue with'	2.5.2; 2.10.2
1076.	[v-l-ʔ/o]	XII(a)	'be absorbed, assimilated'	2.5.1; 2.10.3
1077.	[v/j/e-l-d]	V	'be born, originate (netaph.)'	2.5.4; 2.10.3
1078.	[v/j/e-l-d]	XIII	'be born (to)'	2.5.4; 2.10.3
1079.	[v/j/e-v-l]	XVII	'transport, carry'	2.7.3
1080.	[v-l-g]	IIa	'control one's reactions'	2.7.4
1081.	[v-n]	Ia	'understand'	2.7.3
1082.	[v-r-d <sup>{o}</sup> <sub>ʔ</sub> ]	V(ă)	'be rose, pink'	2.2.4
1083.	[v/j/e-r-d]	XVIa	'come, go down, descend, diminish, decrease'	2.5.1
1084.	[v-r-k <sup>{o}</sup> <sub>ʔ</sub> ]	I(a)	'shine'	2.3.1
1085.	[v-r-k]	XIb	'cable'	2.7.3
1086.	[v/j/e-r-k <sup>{o}</sup> <sub>ʔ</sub> ]	V(ă)	'be green'	2.2.4

1087.	[v/j/ə-r-]	XIb and XIIdr	'inherit'	2.7.1; 2.7.3; 2.7.8
1088.	a,g(ab)[v-r- <del>x</del> ] (a1)		'smuggle'	2.7.3
1089.	[v/j/ə-r-j/ə]	XIb	'instruct'	2.6.2
1090.	n(x)[v/j/ə-r-j/ə <sup>o</sup> Ac]		'be a teacher'	2.8.2
1091.	[v/j/o-r-j/ə]	Ia	'shoot'	2.7.1
1092.	[v-s]	Ia	'defeat'	2.7.3
1093.	[v/j-s-d]	Ia	'found, establish'	2.7.1
1094.	[v/j/ə-s-f]	XIV(a)	'be added to'	2.5.1
1095.	[v-s-t <sup>o</sup> λ]	I(a)	'regulate (voltage, pressure etc.)'	2.2.5
1096.	[v/j/ə-]-v <sup>o</sup> λ]	XV(a)	'sit'	2.2.6
1097.	[v-t-r]	IIa	'give up, renounce, relinquish (a claim), surrender (rights etc.)'	2.7.6
1098.	[v/j/ə-t-r]	I	'be left over'	2.5.4
1099.	[v-x <sup>o</sup> λ]	V(ă)	'be confused'	2.3.1
1100.	[v-x-n]	III	'notice'	2.6.2
1100a.	[v-x-n]	III	'distinguish'	2.6.2
1101.	[v/j/ə-x- <del>x</del> ]	III	'come to realize'	2.5.2; 2.6.2
1102.	[v/j/ə-x- <del>x</del> ]	XIb	'prove'	2.7.3
1103.	[v/j/ə-x- <del>x</del> ]	XII	'be present'	2.6.4
<u>x</u>				
1104.	[x-b-?/ə]	XIIa	'hide'	2.7.3
1105.	[x-b-k]	Ia	'embrace, hug'	2.10.2
1106.	[x-b-l]	IIa	'sabotage'	2.7.5; 2.10.3
1107.	[x-b/v-]	Ia	'dress (wound), bandage'	2.7.1
1108.	n,x[x-b/v-v <sup>o</sup> λ]		'be liked'	2.4.
1109.	[x-c-f <sup>o</sup> Ac]	IIa	'be insolent'	2.8.1.

1110.	[x-c-v <sup>{o}</sup> ]	XIIa	'be hewn'	2.2.3
1111.	[x-c-j/o <sup>{o}</sup> ]	I(a)	'halve, devide into two'	2.2.3
1112.	[x-d-d/o <sup>{o}</sup> ]	Va	'be sharp'	2.2.5
1113.	[x-d-l]	III	'stop, cease'	2.5.4
1114.	[x-d-r]	XIV(a)	'penetrate'	2.5.1
1115.	[x-d- <sup>{o}</sup> ]	I(a)	'be new, renewed'	2.2.5
1116.	[x-f/p-f]	VIIIa	'wash (hair)'	2.7.1
1117.	[x-f/p-r <sup>{o}</sup> ]	XII(a)	'be dug'	2.2.3
1118.	[x-g-g]	Ia	'celebrate'	2.7.1
1119.	[x-g-r]	Ia	'gird on'	2.7.1
1120.	[x-k/x-m <sup>{o}</sup> ]	V(ā)	'be wise'	2.2.4
1121.	[x-k-m <sup>{o}</sup> <sub>(Ac)</sub> ]	I	'play tricks, pretend to be wise'	2.8.1
1122.	[x-k-r]	Ia	'interrogate, investigate, examine (witness)'	2.7.1
1123.	[x-k/x-r]	XIb and XIc	'lease'	2.7.1; 2.7.3; 2.7.8
1124.	[x-k-j/o]	Ia	'imitate, mimic'	2.7.5
1125.	[x-l]	XV(a)	'apply to'	2.3.1
1126.	[x-l]	XII	'fall on'	
1127.	[x-l-c]	XIII(ā)	'be delivered, rescued'	2.5.1
1128.	[x-l-c <sup>{o}</sup> ]	XIII(a)	'be pulled out, drawn out (a cork)'	2.2.3
1129.	[x-l-d <sup>{o}</sup> ]	V	'be rusty'	2.4
1129a.	a,g [x-l-f] (x)		'replace'	2.7.3; 2.10.2
1130.	[x-l-f <sup>{o}</sup> ]	VI(a)	'be exchanged, interchanged'	2.2.6; 2.10.2
1131.	[x-l-f]	I	'be over, pass by'	2.5.4
1132.	[x-l-k]	I	'slip'	2.5.5
1133.	[x-l-k <sup>{o}</sup> ]	I(a)	'be smooth'	2.3.1

1134.	[x-l-k]	Ia	'strike, pat (hair etc.)'	2.7.3
1135.	{a}n(x)[x-l-k <sup>o</sup> ]		'be divided'	2.2.5
1135a.	a,g [x-l-k] (x)		'divide among, distribute'	2.7.5
1136.	[x-l-l <sup>o</sup> ]	I(a)	'descecrate'	2.2.5
1137.	[x-l-l]	III	'make a generalization'	2.6.2
1138.	[x-l-l]	I and III	'play the pipe, flute, recorder'	2.6.2; 2.6.3
1139.	[x-l-m]	III	'dream'	2.6.2
1140.	[x-l-m]	XIII	'recover, recuperate'	2.5.5
1141.	[x-l- <sup>o</sup> ]	V(ă)	'be weak'	2.2.2; 2.10.3
1142.	n(x)[x-l-]	XV	'command, overlook'	
1143.	[x-l-t]	Ia	'decide'	2.7.3
1144.	[x-l-v]	Ia	'milk'	2.7.1
1145.	[x-l-j/o <sup>o</sup> ]	VIII	'be ill'	2.4
1146.	[x-m-c]	I	'turn sour (milk etc.)'	2.5.5
1147.	[x-m-c]	Ia	'miss opportunity'	2.7.3
1148.	[x-m-k]	XVI	'slip away, evade'	2.5.5
1149.	[x-m-x/o <sup>o</sup> ]	V(a)	'be hot, warm'	2.2.5; 2.10.3
1150.	[x-m-m <sup>o</sup> ]	V(ă)	'be angry'	2.2.5; 2.10.3
1151.	[x-m-]	Ia	'arm, equip'	2.7.5
1152.	[x-n-f <sup>o</sup> <sub>Ac</sub> ]	XVII	'be a flatterer'	2.8.1
1153.	[x-n-k <sup>o</sup> ]	V(ă)	'strangle'	2.2.3
1154.	[x-n-k]	V(ă)	'stifle, suffocate'	2.5.1; 2.10.3
1155.	[x-n-t]	Ia	'embalm'	2.7.1
1156.	[x-n-j/o <sup>o</sup> ]	XII(ă)	'encamp, park'	2.3.1
1157.	[x-n-x]	Ia	'inaugurate'	2.7.1
1158.	[x-n-x]	Ia and IX	'be educated, brought up'	2.7.5; 2.10.3



1159.	[x-p-r]	I	'entrench, dig oneself in'	2.10.1
1160.	[x-p-j/ø]	IIa	'cover (for), protect'	2.7.6
1161.	[x-r-ʔ/ø]	Ia	'overpower'	2.7.3
1162.	[x-r-g]	XIII	'deviate, exceed bounds'	
1163.	[x-r-k { <sup>ø</sup> / <sub>r</sub> }]	I	'squeak'	2.3.2
1164.	[x-r-m]	Ia	'excommunicate'	2.7.3
1165.	[x-r-m]		'confiscate'	2.7.3
1166.	[x-r-]	Ia	'plough'	2.7.1
1167.	[x-r- { <sup>ø</sup> / <sub>r</sub> }]	V(ǎ)	'be deaf'	2.2.6
1168.	[x-r-t]	III	'regret'	2.6.2
1169.	[x-r-t { <sup>ø</sup> / <sub>r</sub> }]	XII(a)	'be engraved, chiselled'	2.2.3
1170.	[x-r-v]	V(a)	'be destroyed'	2.5.1
1171.	[x-r-ʒ]	III(ǎ)	'be compelled to'	2.10.3
1172.	n,n'[x-r-j/ø] (r)		'compete'	2.10.2
1173.	[k/x-r-z]	Ia	'declare (a strike etc.), announce'	2.7.3
1174.	[x-z]	IIa	'be reserved, stingy'	2.7.2
1175.	[x-s-f { <sup>ø</sup> / <sub>r</sub> }]	I(a)	'be bare'	2.2.3; 2.10.1
1176.	[x-s-l { <sup>ø</sup> / <sub>r</sub> }]	I(a)	'be liquidated'	2.2.5
1177.	[x-s-m { <sup>ø</sup> / <sub>r</sub> }]	VIII(a)	'be blocked'	2.2.3; 2.7.3
1178.	[x-s-n { <sup>ø</sup> / <sub>r</sub> }]	V(ǎ)	'be immuned'	2.2.5; 2.10.3
1179.	a,g[x-s-n] (x)		'innoculate'	2.7.5
1180.	[x-s-r]	XIIIa	'subtract'	2.7.3
1181.	[x-s-r]	XIII(a)	'be missing'	2.3.1; 2.6.4
1182.	[x-s-x]	Ia	'save, spare'	2.7.1; 2.7.3
1183.	{ <sup>ǎ</sup> / <sub>r</sub> } a,g [x- -d] (r)(c)		'suspect'	2.7.1

1184.	$[x-\int-k]$	XI	'feel like (doing something)'	
1185.	$[x-\int-l\{\overset{\circ}{\underset{\wedge}{\lambda}}\}]$	V(ă)	'be hardened'	2.2.5; 2.10.3
1186.	$a,g\underset{(x)}{[x-\int-r]}$		'prepare for'	2.7.3
1187.	$[x-\int-r]$	Ia	'declare "Kosher"'	2.7.3
1188.	$[x-\int-]$	III and V	'worry'	2.6.1; 2.6.2
1189.	$[x-\int-]$	Ia	'caress [slang]'	2.7.7; 2.10.2
1190.	$n(x)[x-\int-v\{\overset{\circ}{\underset{Ac}{\lambda}}\}]$		'be considerate'	2.8.1
1191.	$[x-\int-v\{\overset{\circ}{\underset{\wedge}{\lambda}}\}]$	IX	'be important'	2.3.2
1192.	$a,g\underset{(x)}{[x-\int-v]}$		'consider, deem'	2.7.1
1193.	$[x-\int-v]$	Ia	'calculate, compute'	2.7.5
1194.	$[x-\int-v]$	III	'think'	2.6.2
1195.	$n(d)[x-\int-v]$		'think of'	
1196.	$[x-\int-x\{\overset{\circ}{\underset{\wedge}{\lambda}}\}]$	I(ă)	'be dark'	2.2.4
1197.	$[x-t-?/ə]$	IIa	'sign'	2.7.2
1198.	$[x-t-?/ə]$	Ia	'disinfect'	2.7.5
1199.	$[x-t-f]$	XIIIa	'kidnap, snatch'	2.7.1
1200.	$[x-t-f]$	XIdr	'get (blows)'	2.7.1; 2.7.3; 2.7.8
1201.	$[x-t-l]$	Ia	'wrap up with nappies'	2.7.5; 2.10.1
1202.	$\{\overset{\circ}{\underset{su}{a}}\}a,g\underset{su}{[x-t-m]}$	III(ă)	'sign (document etc.)'	2.6.2
1203.	$[x-t-n\{\overset{\circ}{\underset{\wedge}{\lambda}}\}]$	VI(ă)	'be married'	2.2.5; 2.10.2
1204.	$[x-t-r]$	n(i)	'row (with oars)'	2.5.4
1205.	$[x-t-r]$		'crown'	2.7.3
1206.	$[x-t-r]$	IIa	'undermine'	2.7.2

1207.	[x-t-t]	IIa	'dig (nose) pick (teeth) search (papers)'	2.7.6
1208.	[x-t-x <sup>{o}</sup> <sub>r</sub> ]	V(a)	'be cut'	2.2.3
1209.	[x-j-g]	Ia	'dial (telephone)'	2.7.5
1210.	[x-j-l]	Ia	'be enlisted'	2.7.5
1210a.	[x-j-v]		'take something upon oneself'	2.10.1
1211.	[x-j-v]	IIIa	'oblige'	2.7.5; 2.10.3
1212.	[x-j-v]	VIII(a)	'debit'	2.5.2
1213.	[x-j-v]	Ia	'approve of'	2.7.5
1214.	[x-j-v]	Ia	'find guilty, pronounce guilty'	2.7.5
1215.	[x-j-x]	XVII	'smile'	2.6.3
1216.	n(x)[x-j-j/o]		'live (in a place)'	2.6.4
1217.	[x-j-j/o <sup>{o}</sup> <sub>r</sub> ]	I(ä)	'live, exist'	2.3.1
1218.	[x-z-k]	XIIa	'hold'	2.7.3
1219.	[x-z-k <sup>{o}</sup> <sub>r</sub> ]	V(a)	'be strong'	2.2.5
1220.	[x-z-r]	IIa	'court (a lady)'	2.7.6
1221.	[x-z-r <sup>{o}</sup> <sub>Ac</sub> ]	I	'be swinish'	2.8.1
1222.	[x-z-r]	XVII(a)	'return, come, (go) back'	2.5.1
1223.	[x-l-k]	IIa	'disagree with'	2.7.2

## j

1224.	[j-ʔ/o-c]		'advise, suggest'	2.6.2; 2.10.2
1225.	[g-ʔ/o-l <sup>{o}</sup> <sub>r</sub> ]	V(ä)	'be efficient'	2.2.5
1226.	[j-ʔ/o-r]	Ia	'forest'	2.7.5
1227.	[j-b-r]	I and III	'howl'	2.6.3
1228.	[j-ʔ/o-ʃ <sup>{o}</sup> <sub>r</sub> ]	V(ä)	'be desperate'	2.2.5; 2.10.3

1229.	[j-b/v- $\left\{\begin{smallmatrix} \textcircled{0} \\ \textcircled{1} \end{smallmatrix}\right\}]$	V(ă)	'be dry'	2.2.5; 2.10.3
1230.	[j-c-?/ə]	XVII	'export'	2.7.5
1231.	[j-c-g]	Ia	'represent'	2.7.5
1232.	[j-c-r]	Ia	'manufacture, produce'	2.7.5
1233.	[j-c-v $\left\{\begin{smallmatrix} \textcircled{0} \\ \textcircled{1} \end{smallmatrix}\right\}]$	V(ă)	'be stable, steady'	2.2.5
1234.	[j-c-v]	XII	'report duty, appear before'	2.5.5
1235.	[j-d-d $\left\{\begin{smallmatrix} \textcircled{0} \\ \textcircled{1} \end{smallmatrix}\right\}]$	VI	'be friends (with)'	2.4; 2.10.2
1236.	[j-f/p-j/ə]	I(ă)	'be beautiful'	2.3.1; 2.10.1
1237.	[j-h-d $\left\{\begin{smallmatrix} \textcircled{0} \\ \textcircled{1} \end{smallmatrix}\right\}]$	I(ă)	'be jewish'	2.2.5; 2.3.1
1238.	[j-k-r $\left\{\begin{smallmatrix} \textcircled{0} \\ \textcircled{1} \end{smallmatrix}\right\}]$	V(ă)	'be expensive, costly'	2.2.5
1239.	[j-n-k]	IX	'suck (breast milk)'	2.6.2; 2.10.3
1240.	[j-r-k]	XV	'spit'	
1241.	[j- $\left\{-n\begin{smallmatrix} \textcircled{0} \\ \textcircled{1} \end{smallmatrix}\right\}\right]$		'be old, outdated antiquated'	2.4.
1242.	[j- $\left\{-n\begin{smallmatrix} \textcircled{0} \\ \textcircled{1} \end{smallmatrix}\right\}\right]$	V(ă)	'be asleep'	2.2.2
1243.	[j- $\left\{-r\begin{smallmatrix} \textcircled{0} \\ \textcircled{1} \end{smallmatrix}\right\}\right]$	I(a)	'be straight'	2.2.5
1244.	[j- $\left\{-v\begin{smallmatrix} \textcircled{0} \\ \textcircled{1} \end{smallmatrix}\right\}\right]$	XIII(a)	'be settled'	2.2.5; 2.3.1
1245.	[j- $\left\{-v\right\}\right]$	Ia	'settle (a dispute etc.)'	2.7.5
1246.	[j-t-m $\left\{\begin{smallmatrix} \textcircled{0} \\ \textcircled{1} \end{smallmatrix}\right\}]$	I(ă)	'be an orphan'	2.2.5
1247.	[j-v-?/ə]	XVIa	'import'	2.7.5
1248.	[j-x-l]	III	'may, can, be able to'	
1249.	[ $\text{an}(x)$ ]j-x-d]		'set apart, single out'	2.10.3
1250.	[j-x-d]	VI	'be alone with'	2.10.2
1251.	{a}n,n'[j-x-s] (x)	'	'bear relation to'	
1252.	[j-x-s]	XIb	'attach, assign'	2.7.5
1253.	[j-x-s]	XVIIa	'attribute'	2.7.5

1254.	[j- <del>z</del> -s]	IIa	'treat (someone nicely etc.)'	2.7.7
1255.	[j-z-m]	III	'plan, initiate'	2.6.2
<u>z</u>				
1256.	[z- <del>z</del> /o]	I	'sweat, perspire'	2.6.3
1257.	[z- <del>z</del> /o-k]	Ia	'call (for help)'	2.7.3
1258.	[z- <del>z</del> /o-k]	I	'call, alarm'	2.6.3
1259.	[z-b-l]	Ia	'manure, fertilize'	2.7.5
1260.	[z- <del>h</del> -m <sup>{o}</sup> <sub>r</sub> ]	V(a)	'be filthy, contaminated, polluted'	2.2.5
1261.	[z-h-r <sup>{o}</sup> <sub>Ac</sub> ]	IV	'be cautious'	2.8.1
1262.	[z- <del>h</del> -r]	IIIa	'warn, caution'	2.7.3
1263.	[z-h-v <sup>{o}</sup> <sub>r</sub> ]	I(a)	'be golden, gilded'	2.2.4
1264.	a,g [z-h-j/o] (x)		'identify'	2.7.5
1264a.	[z-h-j/o]	I	'disclose one's own identity'	2.10.1
1265.	{a}n,n'[z-h-j/o] (r)		'identify with'	2.10.2
1266.	[z-k-f <sup>{o}</sup> <sub>r</sub> ]	I(a)	'be erect, upright, strait'	2.2.6
1267.	a,g [z-k-f] (x)		'charge (an account)'	2.7.1
1268.	[z-k-k <sup>{o}</sup> <sub>r</sub> ]	I(a)	'be refined (oil)'	2.2.5
1269.	n(x)[z-k-k <sup>{o}</sup> <sub>r</sub> ]		'be in need of'	2.3.2
1270.	[z-k-n <sup>{o}</sup> <sub>r</sub> ]	I(ä)	'be old'	2.2.5
1271.	{a}n(f) <sub>(c)</sub> [z-k/x-r <sup>{o}</sup> <sub>r</sub> ]		'remember'	2.2.2; 2.10.3
1272.	[z-k-j/o]	VIIIa	'credit (account)'	2.7.5
1273.	[z-x-j/o]	III	'be fortunate to'	2.6.2
1274.	[z- <del>z</del> -j/o]	IIa	'win (prize, lawsuit etc.)'	2.7.2
1275.	[z-k-j/o]	Ia	'acquit, declare not guilty'	2.7.5
1276.	[z-l <sup>{o}</sup> <sub>r</sub> ]	I(ä)	'be cheap'	2.3.1

1277.	[z-l-l]	Ia	'eat eagerly'	2.7.1
1278.	[z-m]	Ia	'confute'	2.7.3
1279.	[z-m-n]	XVIIa	'invite'	2.7.3
1280.	[z-m-n]	Ia	'order (goods)'	2.7.3
1281.	[z-m-n]	VI(ă)	'chance, meet'	2.5.2; 2.10.2
1282.	[z-m-n]	XI	'have an opportunity to'	
1283.	[z-m-r]	Va	'prune'	2.7.5
1284.	n,x[z-n]	and VIII	'be nourished'	
1285.	[z-n-k]	XVII(ă)	'plung oneself (forward), spring forth, start'	2.5.1
1286.	n(x)[z-n-v]		'trail behind'	
1287.	[z-n-v]	I	'trail behind, queue up'	
1288.	[z-n- <del>x</del> ]	Ia	'neglect'	2.7.3
1289.	[z-n- <del>x</del> ]	Ia	'abandon'	2.7.1
1290.	[z-r- <del>z</del> /e]	XIIa	'sow'	2.7.1
1291.	[z-r- <del>z</del> /e]	Ia	'inseminate'	2.7.3
1292.	[z-r-k { <sup>o</sup> / <sub>h</sub> }]	XIII(a)	'be thrown'	2.2.3
1293.	[z-r-m]	XII(ă)	'stream, flow (liquid)'	2.5.1; 2.10.3
1294.	[z-r- <del>x</del> { <sup>o</sup> / <sub>h</sub> }]	I	'shine (sun)'	2.4
1295.	[z-r-z { <sup>o</sup> / <sub>h</sub> }]	V(a)	'be accelerated, speeded up'	2.2.5
1296.	[z-r-z]	I	'hurry'	2.5.5; 2.10.1
1297.	[z-v-g]	VI(ă)	'copulate, mate'	2.5.2; 2.10.2
1298.	[z- <del>x</del> -l]	I(a)	'crawl'	2.5.1
1299.	[z-z]	I(a)	'move, shift'	2.5.1

Corrigenda

<u>Entry number</u>	<u>root</u>	<u>correction</u>
110	2/e-s-k	delete the entry
407.	g-d	replace the root by n-g-d g
445	g-v-h	change the root to g-b/v-h
1002	$\int$ -x- <del>x</del>	change the root to $\int$ -k/x- <del>x</del>

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